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INDEX TO VOLUME XLV

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This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including the titles of

papers read, officers elected, etc., can be located in proceedings under Societies, Editorials, News of the State, Marriages, Deaths. The subjects of editorials also appear alphabetically and are marked (E).

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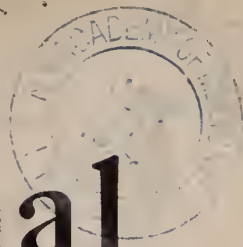
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ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

Vol. XLV

OAK PARK, ILL., JANUARY, 1924

No. 1

ILLINOIS MEDICAL JOURNAL

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State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6221 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Wm. D. Chapman, Silvis, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this Journal to persons not members of the Illinois State Medical Society is \$3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. \$3.50 per year for all foreign countries included in the postal union. Canada, \$3.25. Single current copies, 35 cents. Back numbers, after three months from date of publication, 50 cents.

Editorial

HAPPY NEW YEAR

A year's finale marks a year's debut. With this number is concluded Volume Forty-four of the ILLINOIS MEDICAL JOURNAL and a quarter of a century of years of service in medical journalism. The record of continuous improvement in the quality, size and usefulness of the JOURNAL, that is witnessed by the files of the publication, will be upheld during the coming twelvemonth. The ILLINOIS MEDICAL JOURNAL strives ever to enhance its value to the individual physician, to the cause of better medicine to the public, and to that keynote of medical futurity—*medical organization*.

Doctors will greet the new year with old burdens clinging octopus-fashion upon heavily laden shoulders. The year ends, yes, but an even greater fight continues to safeguard the vitality of the profession—the greatest of mortal servitors! *Need for organization among medical men* cries aloud to physicians and surgeons, from every statute book in the land.

That handwriting on the wall glimpsed a quarter of a century ago has become the lay arbitrary mandate of the nation.

What of the future? "History repeats itself." and ignorance, run amuck, vents its egotistical frenzy without rhyme or reason. So far, the medical profession is merely doped by misguided, lay-dictated politicians. Unless immediate, concerted action is taken by medical men, chances are ten to one that what is now merely a partial but enforced coma, will become a complete and enforced paralysis. This in direct sequence, will bring the death of the profession as an independent, progressive and virile science.

The year just ending has fetched in its train signs of returning consciousness on the parts of many poppy-filled, day-dreaming men of good intent but careless civic sense and self-protective conscience. The future of medicine will be im-

perilled until every doctor in the land is aroused to complete realization of the catspaw part that the profession has played in the current system of false economics and sham welfarism foisted by political vampires upon civilization.

To quote Patrick Henry, "It is foolish for man to indulge in the illusions of hope." Rather must men in an injured cause be up and doing,— united and determined to strike for the cause and win it. Were these columns to greet 1924 with deluded premises of soft sayings and gentle maxims, then indeed, would the ILLINOIS MEDICAL JOURNAL be traitor to the mother science and false witness to that courageous section of the profession for which it serves as mouthpiece.

In its train the old year has brought great progress, renewed faith and ever inspiring ideals, but it has left undone the achievement of resourceful confederation among the doctors.

When this indispensable requisite shall have been accomplished, then medical men in an entire and coherent organization may assert themselves publicly and powerfully as a civic and economic force. Then, and then only for medicine, will there be possible, a genuinely

"HAPPY NEW YEAR."

ILLINOIS STATE MEDICAL SOCIETY MEETING

To avoid conflict with the meeting date of the American Medical Association, the annual meeting of the Illinois State Medical Society will be held in Springfield on May 6, 7, 8, 1924. The programme is as follows:

Medicine, 16 papers.

Surgery, 16 papers.

Eye, Ear, Nose and Throat, 14 papers.

Public Health and Hygiene, 14 papers.

Owing to the fact that the complete programme must be carried by the April issue of the JOURNAL, it is necessary that the completed programme of each section be delivered at the secretary's office (Dr. W. D. Chapman, Silvis, Illinois), during the first week of March or earlier.

The following rules are to be observed:

All papers by members shall be limited to twenty minutes and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

All papers read before the society or any of its sections shall become the property of the

society. Each paper shall be deposited with the Secretary when read, and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance on the part of the writer that such paper has not already appeared and will not appear in medical print before it has been published in the ILLINOIS MEDICAL JOURNAL.

A paper not heard in its scheduled turn shall be held subject to the call of the Chairman of the section at the end of that regular session, if time permits; and, as an alternative, at the end of the program.

All discussions shall be confined strictly to the subject in hand.

No paper shall appear in the printed transactions of the meeting unless read in full or in abstract.

The officers of the several sections are as follows:

Section on Medicine:

Chairman, J. E. Tuite, Rockford.

Secretary, J. H. Hutton, 807 E. 63rd St., Chicago.

Section on Surgery:

Chairman, R. W. McNealy, 25 E. Washington St., Chicago.

Secretary, Ben D. Baird, Galesburg.

Section on Eye, Ear, Nose and Throat:

Chairman, W. L. Noble, Chicago.

Secretary, Wm. R. Fringer, Rockford.

Section on Public Health and Hygiene:

Chairman, S. S. Winner, Chicago.

Secretary, D. J. Lynch, 6548 Glenwood Ave., Chicago.

The Society:

President, E. H. Ochsner, Chicago.

Secretary, W. D. Chapman, Silvis, Ill.

LITERATURE DEALING WITH THE QUACK PROBLEM AT YOUR DISPOSAL

A pamphlet entitled "Some Facts Worth Knowing" has been gotten out by the State Society; copies of same can be had gratis by writing to the secretary of the State Society, Dr. W. D. Chapman, Silvis, Illinois. This pamphlet sets forth, first, facts about all the cults, and, second, a few of the accomplishments of the medical profession. Patients making inquiry about the cults should be handed one of these reprints and asked to carefully read it. In this way much valuable time and unnecessary controversy is

avoided and the inquiring patient will actually get reliable information as to what the medical profession stands for and what it has accomplished in the prevention and elimination of disease and how inadequately prepared to treat human ills all the cultists are.

The supply of this pamphlet is unlimited and we suggest that every Doctor in the state distribute the pamphlet freely among his patients. If this is done quite universally it will help materially in the state society's plan of educating the public and will lessen materially the burden of the committee who has charge of the responsibility of the lay educational campaign.

THE DECISION OF THE ILLINOIS STATE SUPREME COURT IN THE REGULATION OF THE PRACTICE OF MEDICINE IN ILLINOIS

The medical men of the state have been amazed at the apparent purport of the decision of the Supreme Court of the state, handed down in December, in the case of the People against Robert E. Schaeffer. The opinion is not yet final, because there is still to be filed a motion for a rehearing. We understand that the Attorney General will file such a motion and that it will probably be some time yet before the final decision of the Supreme Court will be announced. The case involves the collection of a penalty by the state for Schaeffer's violation of the medical practice act of 1899.

The medical practice act of 1917 was also considered in the court's decision. The court has, temporarily at least, decided that both of these acts were unconstitutional. They were repealed by the medical practice act of 1923, which is the present law, and which is not affected by the Schaeffer case. The declaration by the court against the acts of 1899 and 1917 would not be of particular consequence, since they have already been repealed by the legislature by the act of 1923, if it were not for the general discussion of the legislative regulation of the practice of the occupation of healing diseases of human beings which the court undertook in the opinion, and in which the court expressed various general notions about the application of the Constitution to the subject.

This suit was brought against Schaeffer for the collection of a penalty prescribed in the act of 1899 on the theory that the act of 1917, which

was then the act on the statute books, had been declared unconstitutional in its entirety in the Love case, a conclusion which we had not considered probable.

Schaeffer had performed what was admitted in the case to be a surgical operation, not having any license or certificate to practice surgery in Illinois. He defended on the ground that, although he had no such license, he had taken a course in surgery in the American School of Osteopathy, and that Dr. George A. Still had testified that the course which he had taken in that institution was "as thorough and as complete as it is in the modern schools of the Regulars." The court apparently took the view that if Schaeffer was not permitted, after having such an education in surgery, to practice surgery, he was the victim of discrimination under the law of 1899.

Mr. Chief Justice Farmer of the court dissented from this view, and refused to join in the decision.

We refrain from expressing our views at length with respect to this decision, because it is still before the court, and because it will undoubtedly be subjected to further consideration by the court on a motion for a rehearing to be filed by the Attorney General. We earnestly entreat the Attorney General to bring this matter to a further hearing and thus gratify all persons who have a desire to promote medical education and authoritative registration of doctors by official action by the state.

WHY QUACKS SUCCEED—TURNING OUT DOCTORS WHO CANNOT REMOVE THEMSELVES FROM MILLION-DOLLAR HOSPITALS

As a rule the quack or charlatan is a surfacely humble person speaking the familiar patois of whichever pond he finds himself swimming.

The old-fashioned saddle-bag doctor who had the confidence and the heart-hold on his ailing public was much the same kind of a man. The quack has stolen the manner of the family practitioner and uses it to disguise his lack of skill.

One of the levers by which the medical profession has been forced aside from those who need most the skilled doctor is this turning of the back upon the old-fashioned virtue of humility.

To a large percentage of newly made medical men there is no day of small things. They must

be the biggest toads in the largest marble basins to please their own bumps of self-approbation.

The medical profession is losing its grip upon the people because a section of this profession forgets that after all, the world over, it is the people themselves, not a handful of plutocrats, that must be served.

Small communities in rural districts in every state in the Union find themselves without doctors. Yet there are physicians and to spare in all of the great cities and the silk-lined institutions. In the mountainous regions a shepherd far from civilization, when his harness gives out, uses a piece of baling wire. When the shepherd finds himself and his nearest community lacking a real doctor, he takes the handiest substitute he can find, whether it is a mail-order nostrum, or a traveling charlatan, or some bogus new thought stunt, or an electric-treat-yourself-at-home.

The situation has been epitomized well in pleas for new methods in medical education that will "produce doctors equipped to operate without million-dollar hospitals. Full time medical education in marble halls," as has been said, "is not producing practitioners qualified to cope with the needs of the average American community of today. In New Hampshire there are 68 communities without doctors. In Vermont the state is offering a bonus to physicians who will establish themselves there. This deplorable condition is due to the fact that medical schools turn out doctors who cannot remove themselves from million-dollar hospitals."

It takes courage for a young man to tear himself away from the extreme modernity of an up-to-date institution and to go out into the highways and byways and dispense the healing art that they have sworn to give to the ultimate degree to those who suffer and die. The power of courage seems to have become vapid among thousands of the younger medical men. What they are looking for in only too many instances is a soft job along the lines of least resistance, with a good fat corporation pay envelope, or the comparative ease and chances for sometime distinction that accrue from the apprenticeship to a distinguished specialist.

For the work that gifted specialists and great institutions have done, the medical profession as a whole and as individuals is grateful, but the whole of a tree is not its top. Without the net-

work of roots deep below the sward and stretching in endless ramifications, without the modest, leafless trunk, through which the sap speeds nourishment to the topmost leaf, the great oak could not be. The very foundation of the tree lies away from the sunlight and the admiring eye. It is so with the foundation of medical service. There are times when necessity demands that men shall hide their lights under the metaphorical bushel. Those same country districts, whose votes can elect or defeat a president, offer the leverage for a return of the confidence from the public, that is so essential to the welfare of science and, greater yet to that national wealth, public health.

MEETING OF THE CONGRESS OF INTERNAL MEDICINE AND AMERICAN COLLEGE OF PHYSICIANS

1. The next annual meeting of the American Congress of Internal Medicine and the College of Physicians will be held in St. Louis, February 18 to 24, 1924.

2. The president of the Congress, Dr. Elsworth S. Smith, has perfected his various committees, so that now all committees are working diligently to arrange proper hotel accommodations, headquarters, transportation facilities, scientific programs and clinical sessions at the various hospitals.

3. That the management of the various hospitals and the clinicians of St. Louis are lending themselves very freely for the perfection of the clinical sessions to be held in the hospitals, and for the general entertainment of our visitors.

4. That the Hotel Chase, one of the newest, largest and best equipped hotels of the city, has been selected as headquarters for the Congress and, to date, several hundred reservations have been made.

5. That the Committee on Hotels announces that all of the hotels of St. Louis are more than anxious to do everything possible to see that our visitors are cared for conveniently and economically.

6. That physicians who desire hotel reservations or any other information regarding the meeting can receive such assistance and information by addressing their request to the President, Dr. Elsworth S. Smith, Humboldt Building, St. Louis, Mo.

ANNOUNCEMENT

The Eighth Annual Clinical Session of the American Congress on Internal Medicine will be held in the amphitheatres, wards and laboratories of the various institutions concerned with medical teaching, at St. Louis, Mo., beginning Monday, February 18, 1924.

Practitioners and laboratory workers interested in the progress of scientific medicine are invited to take advantage of the opportunities afforded by this session.

Address inquiries to the Secretary-General.

Elsworth S. Smith, President,
St. Louis, Mo.

Frank Smithies, Secretary-General,
1002 N. Dearborn St.,
Chicago, Ill.

WHY NOT A BONUS FOR THE DOCTOR'S LABOR?

Each member of the Yankee ball player team in 1923 got a cheque for \$6,160.46 as his share of the profits of the world series. Each player on the beaten team (the Giants) got \$4,112.99 as his share of the profits of the world series. These sums were in addition to the year's salary.

We do not begrudge the players this money—they earned it perhaps in providing amusement for the American public. The Doctor is engaged in saving human lives—his services are apparently not so much appreciated. We try to imagine how a doctor would feel if he got a bonus like the ones mentioned above at the end of his year's work, or indeed how he would feel to receive that much for his year's labors and no bonus at all.

THE STATUS OF THE SHEPPARD-TOWNER ACT

Twelve states are now co-operating with the Sheppard-Towner Act by virtue of action on the part of their respective state legislatures. Twenty-eight states are co-operating through an interim action of the Governor.

The states which have not accepted the provisions of the maternity and infancy act are: Vermont, Massachusetts, Rhode Island, Maine, where the Legislature passed an acceptance Act which was vetoed by the Governor; Louisiana and Illinois, where the Act received a substantial majority in the Senate but failed of passage in the House; Kansas, where the Act passed the Senate unanimously, but did not

come to a vote in the House; and Connecticut, where the 1923 Legislature instructed the Health Department not to accept the funds available under the Act.

DISHONESTY AND COMPULSORY HEALTH INSURANCE

In a recent issue of the *Union Labor News* in an article on "Health Insurance and Moral Hazards," the bulletin of the Central Society says:

The article asserts that the health insurance companies are discovering, by comparing notes, that what they term the moral hazard is increasing. By this they mean that the number of the insured who, when in need of money for one reason or another, claim to be ill, thereby swindling the company out of money under false pretenses, is growing larger rapidly.

The article claims that it is a common occurrence for policy holders to report sick during periods of unemployment for the purpose of obtaining an income. Reports from several companies writing health insurance are said to show that during the first quarter of 1922 there was a tremendous increase in the demands for payments on policies. Compared with the corresponding period, the claims of insured persons are said to have more than doubled, while deaths for the areas, on which reports were made, remained practically normal.

Recently a superintendent of the accident health department of a large insurance company stated that three out of every five health claims examined over a long period were exaggerated. Of course the companies do not stand this loss, it is merely passed on in the form of a higher premium which is collected from the working men who are the chief holders of such policies. It is perfectly obvious then that the honest laborer thus pays for the dishonesty practiced by his fellow.

In our propaganda against the enactment of compulsory health insurance in this country we repeatedly called attention to this phase of dishonesty that had grown up under the system in Germany. This is but one of many evils of the system of compulsory health insurance and in our estimation it is not the most serious.

WHO ARE THE EXPERTS IN THE CHICAGO PUBLIC HEALTH INSTITUTE?

The following from the official bulletin of the Chicago Medical Society, December 15, 1923, is self-explanatory:

The Medical profession will be surprised to learn that the Public Health Institute have experts on their staff, but, *not for treating Venereal Diseases*, while

the Public will be surprised to learn that the *Advertised Experts* for treatment of Venereal Diseases have either *quit or have not been hired*.

The only experts we have been able to find at the Public Health Institute are, (1) those who write the Ads for the daily newspapers—and we all admit that they are cleverly written and catchy pieces of art; (2) those who chose the name "Public Health Institute," which not only deceives the public but also many of our Institutes of learning throughout the United States, such as the Rockefeller Institute, the University of Wisconsin, the Wisconsin Psychiatric Institute and the American Psychiatric Society. Evidence of this may be seen in the following quotation from a very prominent Psychiatrist to another of the same faith; "I am somewhat surprised at what you state concerning the Public Health Institute of Chicago."

The Board of Directors themselves may think they are a part of the Public Health Service for all we know, but it seems far fetched to believe that men in their position could be so deceived.

That at least some of the Public have been deceived may be evidenced by a quotation from a patient to this effect, "I was lured by newspaper ads to think that the Public Health Institute was a Government Institution, so transferred my case from my physician to this Institute. But not for long, as their treatments were given by a boy in his "teens" to which I objected. The Manager of the Institute argued with me and informed me that the boy had given many hundreds of injections and gave them better than physicians."

Such statements as these, and we have many more like them, make us wonder if the Board of Directors of the Institute *know anything* about the *inside workings* of their pet scheme, or whether they are the *silent directors* whom we often read about after the bank has closed its doors. We hope to be able to inform them of some of the inner workings with which they are not familiar.

However, we believe that the so-called manager is the sole boss about this Institute and is responsible to no one but the Board of Directors and that they are managers in name only. If we are thinking wrongly, we would be pleased to be put right. In the meantime, another quotation, "I was a patient at the Public Health Institute, but soon learned that most of those giving treatments were not physicians. They don't seem to be able to get physicians any more, so are scouting through the medical schools for students."

Even the Judges on the bench seem to have fallen into the snares of the Public Health Institute, but we hope only so long as they are uninformed. We expect the same help from the bench, the bar and from legitimate attorneys everywhere in our campaign against a Quack Medical Institute of the most brazen type; as we have been able to give the Fellows of Blackstone in their campaign against the shyster lawyer. They shall all be made acquainted with the facts. In the meantime, may we state that the *Public Health Institute is not a government institute in any sense of*

the word; is not connected with the Public Health Service; has no physicians on its staff who are members of the Chicago Medical Society or the American Medical Association in so far as our rigid investigation has enabled us to determine, *but is a private corporation organized for profit*.

STATE MEDICINE IS EXTRAVAGANT MEDICINE

There are a few thoughtful men who believe State Medicine is the result of an economic condition where wealth is closely controlled by a small group of people.

A still larger group of thinkers see an imminent danger of State Medicine in the slow but constant abrogation of the physician's prerogatives by health agencies.

Upon the causatives, there is a difference of opinion; but upon the result, there is a unanimity of opinion. State Medicine is a fallacious theory with no logical place in the present social structure of the world.

The "opposite side of the picture" of State Medicine is rather a drab outlook. One glance to any fair-minded citizen is sufficient. It must not, and cannot have a place in America.

Sir Richard Luce, senior surgeon of the Derbyshire Royal Infirmary, vividly presents the result of State Medicine in a recent article upon "The Voluntary Hospital System" reproduced in the *British Medical Journal*.

"The practice of medicine," he says, "is a combination of an art and a science. It is based on scientific knowledge, and in recent years science has perhaps become the predominant partner, but it is still largely an art. . . . It is largely a personal factor. The best doctor is one who, with a good knowledge of the recognized scientific facts, by his individuality and intuition is able to apply his scientific knowledge so as best to suit his own capacity and the characteristics of the patient."

"It is not a rule-of-thumb business," he believes, "which can be controlled by acts and regulations, but a skillful handicraft working largely empirically with a just regard to the qualities of both doctor and patient. We might conceive of a time when all medicine would be reduced to a dead level of science, but that time has certainly not arrived yet."

"The human body and its vital processes are in many ways too complicated for our present knowledge. We still must work largely in the dark. This is what I mean by art as opposed to the science of medicine. Now art is a shy bird. It lives on freedom. It cannot endure being fettered by rule and harassed by control. It soon begins to wilt in captivity. Whenever arts have been bound by rule they have deteriorated. Whether it be in painting, poetry, music, or architecture, all progress stops when individual freedom is checked; and so it is with medicine. State medicine will never be progressive medicine. It is individualism and freedom that have brought about progress."

COMPULSORY HEALTH INSURANCE BREAKS DOWN IN GERMANY

In the *Journal A. M. A.*, December 15 issue, page 2048, the journal's regular correspondent writes as follows:

BERLIN

(From Our Regular Correspondent)

Nov. 17, 1923.

Physicians and the New Social Insurance Legislation

As was to be expected, the recent modifications in the federal social insurance law especially that portion which deals with health insurance, which was discussed in my letter last week, have caused great excitement among physicians. Sharp protests are being published on all sides. The executive committee of the Leipzig League has issued the following manifesto: "The federal ministry of labor has promulgated several decrees which effect radical changes in health insurance legislation. Since September 1 of this year, health insurance has been badly disrupted owing to the widespread economic collapse. The benefits accorded the insured have become more and more restricted, although the capitation fees have mounted to previously unheard-of sums. The extra benefits are being abolished by many health insurance societies. Health insurance for families has been done away with. Patients must pay either wholly or in part for medicines and other therapeutic agents. Many societies demand of the insured additional payments to meet the cost of medical treatment. The largest league of health insurance societies (*der Verband deutscher Ortskrankenkassen*) has announced in the press that the panel physicians can no longer count on being paid for their services, and that patients, in lieu of medical treatment, are to receive cash payments from the societies. Health insurance, during recent months, has been kept up to a certain extent by the panel physicians, who have given their services almost gratuitously. Often they are paid according to the index established by the federal bureau for the previous week, instead of according to the index for the week in which the services were rendered as is the case with workmen, employees and officials. Consequently, even the physicians whose services are most in demand receive fees reckoned in greatly depreciated currency. In recent weeks, owing to the soaring of the American dollar, a consultation fee has been the equivalent of only from 1 to 2 gold pfennigs, or less than half a cent in American money. Recent legislation introduced by the ministry of labor encroaches on the freedom of the medical profession. Physicians are therefore frequently compelled to refuse to give treatment. The executive committees of the health insurance societies can dictate to the physicians what therapeutic agents and methods of treatment they shall employ; on what basis and how long the insured are to be retained on the sick list, and whether or not and, if at all, for how long they are to be treated in a hospital. If the physicians do not conduct themselves in accordance with the demands of the health insurance societies, they can be dismissed

without notice, the societies having virtually the right to declare the contracts entered into between the physicians and the societies null and void. The decision as to what physicians shall be admitted to the panel has been put into the hands of the health insurance societies. The health insurance societies may introduce the system of district physicians, establishing districts in which the insured are deprived of the choice of physician. Moreover, the societies may, on their own initiative, abolish free medical treatment, giving the patients cash payments in lieu of sick benefits. As a result of this provision, the societies have the right to relieve themselves of their legal obligations to the insured by the payment of pitiful sums, and those physicians who, in the interest of their patients, insist on using the most effective medicines and methods of treatment may be dismissed without notice. If these new decrees remain in force, in the future only such physicians will be able to serve the insured as enjoy the confidence and good will of the executive committees of the health insurance societies, but not the confidence of the insured. The medical profession holds that the privileges that are left to the insured are not of a nature to preserve the health of the people, and declares that it can no longer be responsible for a system that offers the insured so few advantages, and that it must refuse to make further sacrifices in money and the right of self-determination. What is more, the physicians are no longer in a position to make further sacrifices as, in spite of their unselfish devotion to their duties, they have been brought to financial ruin by the incompetence of the health insurance societies."

Note:—England is next to complete break down under this false system of medical economics. We wonder what apology the several alleged leaders in this country now have to offer for their vigorous endeavor to have us following the footsteps of Germany and England. In several of the recent issues of the *JOURNAL* we have published the details of the threatened strike of the panel doctors of England because of the insufficient compensation previously paid and the attempt of the government to again further reduce their already inadequate fees.

Recently fourteen thousand British "panel doctors" voted to go on strike January first. They not only complain about the proposed reduction of their pay from 9 shillings 6 pence a year per patient to 8 shillings 6 pence, but state they are dictated to by officials of the Health Ministry—none of whom are medical men—and the condition is intolerable.

Don't think that this issue is dead in America! It is still a live issue—fanatics and parlor socialists still are writing propaganda encouraging its

immediate adoption, and poor, misguided philanthropists are egging on unthinking legislators to do their dastardly work and get the bills through. They have been working quietly in the dark, while the good doctors of the country remain in blissful ignorance—feel that the old dragon is now comfortably dead.

We must awake! Shall we become, under a parsimonious government, the poorly paid slaves of a group of non-medical authorities, struggling with multitudinous, baffling forms to be made out? Or shall we fight, until the last drop of energy and brain-power has been expended in the battle?

THE ONTARIO MEDICAL ASSOCIATION PLAN FOR LAY EDUCATION

The following was abstracted from the March, 1923, *Bulletin* of the Ontario Medical Association. We publish it in the hope that it will serve a useful purpose in educating the doctors of Illinois as to what our State Society hopes to accomplish in the proposed campaign in this state:

Enlightenment of the public by practicing physicians and surgeons concerning Modern Medicine, its methods and accomplishments, is the new departure herein proposed as the greatest (and most delicate) operation for advance which the practicing medical profession of Ontario can adopt.

We do not propose that the practicing medical profession should teach public health or preventive medicine—these are well taught by public health specialists to the public already. But we do propose that the Diagnostic and Therapeutic Medicine and Surgery of every day practice should be explained, illustrated, and demonstrated by the profession to the Canadian public.

We propose that the practicing medical profession of Ontario should do this essential thing for medicine itself, as it has been done for Public Health.

GOVERNING PRINCIPLES PROPOSED

1. We cannot reach the public without *reaching the public!* To do this by the best methods, we *must use the best methods*. These involve (a) the *personal appearance* of our best representatives before numerous audiences of the public all over Ontario; and (b) correlative newspaper dissemination of the news thus presented to those of the public not present in those audiences.

2. Audiences.

Ready made audiences are the best. Rotarians, Kiwanians, Lions, Chambers of Commerce, Canadian Clubs, Women's Institutes, Bible classes, Brotherhoods, Mothers' Clubs, ad infinitum, furnish audiences, places of meeting, etc., without the need or expense of advertising, etc.

3. Speakers.

Selection of speakers should be made with the most rigid attention to the following specifications:

The speakers must be able to *speak*. They must also know their subject inside and out, in the most thorough manner. But no standing or reputation or prominence in scientific or medical advance, no desire to honour a worthy member of the profession, should be allowed for an instant to be considered as making up for deficiencies such as the following:

(a) An inability to be heard all over an ordinary hall.

(b) An inability to use every day language accurately or to speak without interjecting technicalities.

(c) The use of platitudinous generalities instead of live, up-to-date information.

(d) Disregard of scrupulous truthfulness in every statement.

(e) A superior or condescending or pompous manner.

(f) A tendency to get rattled or angry if interrogated, even if interrogated sarcastically.

Simple, direct sincerity, the outcome of a real desire to inform the public on important matters, is the *sine qua non*, always provided the speaker (a) knows his subject and (b) can speak. Once the audience understands that the speaker can and does give the truth, the whole truth, and nothing but the truth, everything succeeds; without this, failure is inevitable.

4. Material to be given.

Expositions of modern methods of physical examination, of diagnosis and of treatment should be the only subjects dealt with. The systems of the body, their complicated inter-relations, clinical diagnostic methods, the apparatus for extending the sight, touch and hearing and the like, of the physician (stethoscope, ophthalmoscope, microscope, blood pressure apparatus, etc.) should be explained and will prove to be of the greatest interest. The public does not know how far medicine has gone in the last quarter century—although it knows in a hazy way that there have been developments. Radiology, surgery, physiology, are intensely interesting, and can be explained without technical language; as also their uses and applications. This is really useful enlightenment; education, instruction and propagandum of the best. It should be given in the simplest language, and with demonstration, by the best men that can be found. (See suggested titles at end of this article.)

5. Material not to be given.

(a) No speaker, in his addresses, or in discussion or questions following his addresses, should directly or indirectly give any therapeutic instructions, advice or recommendations, applicable to any specific case.

(b) Absolutely no reference to sects or cults in medicine, quacks, proprietary medicine, fee-splitting, medical legislation, or any internal problem of the medical profession should be made in any address or during the discussion following.

(Note—The public is skeptical of our motives and will continue to be for some time. They will look for "niggers in the wood pile," especially in addresses

given by medical practitioners. They will go to such addresses first from curiosity, second to get something of benefit to themselves, third to get information they hope to use for the benefit of their families or pupils, etc. If they hear chiefly or in part, or at all, anything from within the profession extolling the profession or pointing out its virtues in contrast with outsiders, if they hear pleas for medical legislation, or higher standards for licenses, or if they hear of the derelictions of fee-splitters, etc., they will conclude that the alleged "enlightenment of the public" is no more than an advertising dodge for special interests, and act accordingly. If on the contrary, they hear only, time after time, simple, sincere, truly useful and enlightening information about themselves and their physical conditions and complaints they will in time accept such information at its real value and completely revise their attitude towards medicine and medical practice.

6. Language to be used.

Technical ideas must be set forth, but absolutely not in technical language.

7. Scrupulous exactness required.

Everything said before a popular audience must be as scrupulously truthful as if said before a medical society or other scientific convention.

8. Control of material by Ontario Medical Association.

(a) Since the speakers under consideration represent the Ontario Medical Association and the medical profession, not merely themselves, every address should be typed in full and submitted to the Central Committee before it is given. Allow no more than three quarters of an hour for the address proper, three-quarters of an hour for discussion.

(b) Such a typed address should never under any circumstances be read off to the audience. The speaker who cannot speak, but must read, is not the man for this work. He should give the material in substance as it appears in the typed article, but in different sets of language according to his audience, the time available, etc. He must not read!

9. Organization.

In view of all the above, a very definite and very strong Central Committee, fully seized of both the immense importance and the immense delicacy of the proposed campaign, should be appointed, with despotic powers.

This Committee should earnestly and carefully investigate the whole situation and then select a dozen or so speakers to begin with—adding more as they become available—the best speakers in the medical profession of Ontario that they can find; approach them to prepare articles, one or more each, on the subjects selected by the Committee for the first year's campaign, and after amending the typed speeches in detail, then assign to the speakers their subjects and the places where they are to speak, in such a manner that each locality has all or as many as possible of the different addresses during a given period. The speakers should have no responsibilities whatever concerning the matter except (1) to prepare the addresses; (2) to have them written and forwarded to

the committee; (3) to speak at the time and place assigned.

SUMMARY

Proposal—That the practicing medical profession enlighten the public on the modern practice of modern medicine and surgery.

Objective—That the average Canadian citizen, man and woman, shall sufficiently understand to properly appreciate modern scientific medicine as it is today; physical examinations, diagnosis; and treatment based thereon.

Methods—Lectures and demonstrations to clubs, societies, etc., on physical examination, diagnosis and treatment, both medical and surgical.

Control—By a strong central representative committee of the Ontario State Medical Association, selecting and assigning the speakers, and responsible for the material used.

APPENDIX

Tentative illustrative titles for such addresses:

"The examination for, the diagnosis, and the treatment of:

"Cancer."	"Uses of Radium," etc.
"Headache."	"Dislocations."
"Liver Complaints."	"Kidney Troubles."
"Skin Affections."	"Eye Strains, etc."
"Rheumatism."	"Uterine, etc., Troubles."
"Fractures."	"Pneumonia."
"Lung Troubles."	"Children's Diseases."
"High Blood Pressure."	"Tuberculosis."
"Flat Feet."	"Venereal Diseases."
"The Uses of X-ray."	"Diabetes," etc., etc., etc.

Certain subjects may be given before mixed audiences, many will be best delivered to men's or women's clubs separately.

The greatest sincerity, earnestness and attention to detail, especially in demonstration work, is a prime requisite to success.

THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

Annual Meeting, Bloomington, Illinois, Jan. 23-25, 1923.
Headquarters—Illinois Hotel.

Operative Clinics at St. Joseph Hospital and Menonite Hospital. General Sessions, Exhibits, and Registration at the Unitarian Church, corner of East and Jefferson Streets, one block east of square.

(Some space for exhibits will be available free to advertisers in State Journals.)

PROGRAM

First Day—Wednesday, January 23, 1924.

Operative Clinic, featuring different forms of anesthesia, 8:00 a. m., St. Joseph Hospital.

1. Two thyroidectomies, Local anesthesia.
2. Two resections thyroid, Nitrous Oxide-Oxygen anesthesia.
3. Two thyroidectomies, Ethylene Oxygen anesthesia.
4. Two resections thyroid, Ethel anesthesia.

Physicians attending clinic can register at the Hospital Wednesday morning.

Operative Clinic, 2:00 p. m., Mennonite Hospital.

1. Thyroidectomy, Local anesthesia.
2. Ligation Inferior thyroid, Local anesthesia.
3. Ligation Superior Thyroid, Local anesthesia.
4. Resection thyroid, *Nitrous oxide-Oxygen* anesthesia.
5. Resection thyroid, *Ethylene-Oxygen* anesthesia.
6. Ligation one Inferior and one Superior thyroid, *Ethylene-Oxygen* anesthesia.

9:00 p. m. Smoker.

Second Day—Thursday, January 24, 1924.

7:00 to 7:40 a. m. St. Joseph Hospital.

Demonstration of Fluoroscopy of the Heart, Thy-mus and Thyroid. Dr. H. W. Grote, Bloomington, Ill. Dr. Frank Deneen, Bloomington, Ill.

General Session: Unitarian Church.

8:00 a. m. Diagnostic Clinic, Dr. Andre Crotti, Columbus, Ohio.

Non-toxic parenchymatous goiters.

Toxic parenchymatous goiters.

Non-toxic diffuse colloid goiters.

Toxic diffuse colloid goiters.

Non-toxic nodular colloid goiters.

Toxic nodular colloid goiters.

9:00 a. m. Demonstration of gross Pathology of the Thyroid. Exhibition of specimens. Dr. Loyd Arnold, Professor of Pathology, Loyola University of Medicine, Chicago, Illinois.

10:00 a. m. Address, Dr. H. S. Plummer, Mayo Clinic, Rochester, Minn.

11:00 a. m. Address, Dr. Wm. Englebach, St. Louis, Missouri. "Relation of the Thyroid to the other Endocrine Glands." Illustrated by Lantern Slides.

1:00 p. m. Address, Commander Wm. Seaman Bainbridge, New York. "Goiter in the Navy, and in Europe."

2:00 p. m. Address, Dr. Andre Crotti, Columbus, Ohio. "The Etiology of Endemic Goiter and of Toxic Goiter."

3:00 p. m. Address, Dr. Wayne Babcock, Philadelphia.

4:00 p. m. Address, Dr. George Van Amber Brown, Detroit, Michigan. "Comparative Anaomy of the Thyroid."

5:00 p. m. Address, Dr. Edw. H. Skinner, Kansas City, Missouri. "X-ray and Goiter."

Banquet, Illinois Hotel, 7:00 p. m., January 24, 1924.

Address:

Officers of the American Medical Association.

Presidents of State Societies.

Other eminent members of the medical profession.

Third Day—Friday, January 25, 1924.

7:00 a. m. Exhibition of cases and discussion. Unitarian Church.

8:00 a. m. Diagnostic Clinic, Dr. Wm. Wayne Babcock, Philadelphia.

9:00 a. m. History Clinic.

10:00 a. m. Address, Dr. Joseph L. De Courcy, Cincinnati, Ohio.

10:30 a. m. Radium Treatment, Dr. F. M. Hagans, Lincoln, Illinois

11:00 a. m. Medical Treatment.

11:30 a. m. Prevention.

1:00 p. m. Goiter in Nevada, Dr. Thomas W. Bath, Reno, Nevada.

1:30 p. m. Incipient Goiter vs. Incipient Tubercu-
losis, Dr. Roswell Pettitt, Ottawa, Illinois.

2:00 p. m. Round table discussions. Five minute
talks.

3:00 p. m. Movie clinic. Goiter operations.

Dr. E. W. Rowe, Lincoln, Neb., "Treatment of
Thyrotoxicosis."

Dr. Arnold Jackson, Madison, Wis., "Relation of
Basal Metabolic Rate to Diseases of the Thyroid
Gland."

Dr. Frank H. Lahey, Boston, Mass., "Standardiza-
tion of Goiter Operations."

The complete program will be ready January 10th.

OFFICERS

President, Dr. E. P. Sloan, Bloomington, Ill.

Vice-President, Dr. Geo. W. Newell, Burlington, Wis.

Secretary, Dr. J. D. Moschelle, Indianapolis, Ind.

Treasurer, Dr. J. R. Young, Terre Haute, Ind.

THE HOSPITAL'S INJUSTICE TO ITS MED- ICAL STAFF.

Three decades ago hospitals were almost exclusively occupied in caring for ill and injured persons who were unable to employ paid medical aid commensurate with the probable duration of their convalescence, or to secure such medical or surgical skill as was needed for their early resumption of wage earning. It was therefore proper that doctors should give free professional medical and surgical attention to ward inmates of hospitals. Hospitals at that time made no charge for medicines, nurses or board. The charitable nature of the care given by the unpaid members of the staff was befitting and expected, in these eleemosynary institutions. One's education for a medical career does not harden one heart or make the mind insusceptible to the woes of the poor, the ill and the hurt.

Gradually a change has taken place in the function of many hospitals. They have become a resort in injury or disease for well-to-do people. Such persons may rent beds, parts of pay wards or single rooms, according to their ability or willingness to pay the hospital's charges for rental, nursing care and laboratory fees. This rapidly increasing custom has turned the American hospital, in many instances, into a creation much resembling the nursing homes of Great Britain.

The nursing home is like a private hospital in America. It is not a corporate charitable institution, but the personal business equipment of one or more practitioners of medicine and surgery; it does not pretend to be doing welfare work, or request donations from individuals or financial aid from the community or the state for overhead expenses. It may be a relatively small building, managed by non-medical persons, taking sick people as boarders sent there by doctors.

The present dual function of modern American hospitals ought to be recognized by hospital trustees and managers. They should not expect their attending physicians and surgeons to treat, without some

pecuniary reward, patients who pay the hospitals for care and treatment. It should make no difference by whom the patient's expenses are paid. The knowledge and skill of the doctor are the essential factors in the situation.

The change in relation of the members of the medical staff to pay patients in private rooms has been pretty generally recognized, but it has been ignored to a great extent in the case of pay patients admitted under the Workmen's Compensation Act of Pennsylvania.

When Pennsylvania enacted a law providing compensation and medical care for employes injured while on duty, a large number of persons accidentally hurt, who would formerly have been admitted as free patients, became paying patients. The money paid for these hospital inmates comes from individual employers, firms, corporations or insurance agencies acting for them. The original act was changed by amendment to secure the right of the doctor to receive remuneration for professional attendance upon "compensation" cases, in addition to any amount which the statute allowed the hospital. The employer, very properly, is permitted to choose the doctor to whom the hurt employe is entrusted. This is in order to secure competent and reliable treatment, and to insure the prompt return of the employe to duty.

Employers and their insurance agencies naturally prefer to have their workers obtain the advantages of hospital care, rather than to be treated in their own homes. The result, however, has been that hospitals receiving compensation cases collect the entire amount paid under the provisions of the law, and expect the members of their medical staffs to treat these cases as if they were free patients or poverty-stricken individuals.

The intention of the amended statute was that the doctor, as well as the hospital, should be paid. It was so understood by the Workmen's Compensation Board and by the Medical Legislative Conference of Pennsylvania.

As often happens in framing laws, the wording of the essential phrase was not clear and interested parties soon secured the interpretation that, if a hospital was selected instead of an individual practitioner of medicine, the hospital could claim the entire amount due, under the law, from the employer. The hospitals have taken advantage of this obscurity in the wording of the statute, and employers and their insurance agencies find no fault with the interpretation.

The Section on Industrial Medicine and Public Health of the College of Physicians of Philadelphia, about two and a half years ago, criticized this unfortunate wording of the Compensation Law and showed the unjust view of its provisions taken by hospital authorities. Since that time there has been considerable discussion between hospital staffs and their executive superiors. The Medical Society of the State of Pennsylvania and the Philadelphia County

Medical Society have, within recent months, given the question grave consideration. An effort was made during the session of the Legislature of 1923 to have the phraseology of the law altered, so as to remove its obscurity and make its intended meaning absolutely clear. The parties who benefit by the indefiniteness of the law successfully thwarted the attempt at amendment.

It is useless to spend time trying to convince hospital executives of this injustice to their staffs. The members of the medical profession themselves should show that it is not unreasonable to decline to give unrequited service to pay patients. It is admitted that the compensation act does not always pay hospitals the actual cost of their service to compensation cases, but even so, in common justice, the institution should share the pay with its medical officers.

The remedy for the abuses of the present situation is for surgeons and physicians to organize their own hospitals for pay patients. This form of hospital, financed by its staff, has been successfully carried on in various cities of this country, and the stock of such institutions has paid fair dividends on the money invested.

JOHN B. ROBERTS in *Atlantic Medical Journal*, Oct., 1923.

A SIDE LIGHT FROM THE SOURCE ON OSTEOPATHY

In 1874, Andred T. Still founded osteopathy. He tells about it in his autobiography. He tried to get started in Kansas, but the powers at Baldwin University refused to permit him to expound his doctrines at that institution. In May, 1875, he was in Kirksville, Mo. It appears that he rather anticipated having a hard time, and he tells that his wife promised to stand by him and help him fight his battle. At this point in history he presents a little incident which we have thought worth quoting:

"I did not tell her (his wife) that when I came to Missouri I found a letter addressed to my brother Edward, from brother Rev. James M. Still, of Eudora, Kans., stating that I was crazy, had lost my mind and supply of truth-loving manhood: I read it and thought, as the eagle stirreth up her nest, so stir away, Jim, till your head lets down some of the milk of reason into some of the starved lobes of your brain. I believed Jim's brain would ripen in time, so I let him pray, until at the end of eighteen years he said:

"Hallelujah, Drew, you are right; there is money in it, and I want to study Osteopathy."

We acknowledge that we are responsible for the italics.—*Jour. A. M. A.*, Sept. 29, 1923.

ALCOHOLISM, BEFORE AND AFTER

From time to time seemingly authentic stories have appeared in the press, indicating a marked increase in cases of alcoholism and deaths from alcohol since the Prohibition Act has become the law of the land. Those who through their professional connections have the opportunity of coming into contact with a num-

ber of such cases have warned us of the unusual symptoms present in modern alcoholism, symptoms unlike those generally known to the medical profession.

At the Boston meeting of our Association an authoritative paper on the subject was read by Dr. Francis J. Gerty, superintendent of the Psychopathic Hospital, Cook County Hospital, Chicago, which gives much food for thought.

The highest number of cases of alcoholism treated at the Cook County Psychopathic Hospital in one year before prohibition was 827, in 1912. Not only at this institution, but fairly generally throughout the country, there followed a diminution in the number of cases, only 99 having been seen at Cook County Hospital in 1916. The number remained low until the middle of 1920, when a sharp rise occurred, reaching 641 cases for the year. The increase has continued, so that 1922 showed the largest number ever treated in the history of the institution, 1130. The mental effects of modern alcoholism have also passed all previous figures. For the first half of 1917, 377 alcoholics, 18.5 per cent of all patients, were received; for the first half of 1920, only 82, or 3.9 per cent; while the last six months of 1922 gave 539 alcoholics, 20.9 per cent of total admissions.

The death rate from alcoholism is comparable, though it does not follow exactly the case rate. The Chicago Health Department statistics show 187 deaths from alcoholism for 1917; 46 for 1920; 155 for 1922; while in the first nine months of 1923 as many deaths as for the whole of 1922 have occurred.

Practically all cases of alcoholism now seen are of the modified or aberrant type known as "moonshine" poisoning. Both the physical and mental morbidity run high, as does also the mortality. The poison takes effect rapidly and smaller amounts are needed to produce grave symptoms, hence the patient reaches the hospital sooner than formerly. The effect is more profound, more often fatal, and survivors commonly show mental deterioration after a few sprees.

One is naturally interested in knowing the cause of these changed symptoms. Wood alcohol, denatured alcohol, synthetic gin, toilet preparations, tincture of ginger, extracts, proprietary medicines, wood alcohol such as painters use, etc., are among the "beverages" used, but the principal agent seems to be illicitly distilled liquor, commonly known as "moonshine." According to Doran and Beyer, who base their opinion on 75,000 analyses, the poisonous effects of moonshine are due to poor control over fermentation of the mash, and faulty distillation, brought about chiefly by the desire to make as much profit as possible.

The old moonshiner of the mountains, although illiterate, knew that the first and last parts of a run must be discarded. He perhaps did not know that the first of the run, or the heads, contained an excess of aldehydes, or that the tails ran high in fusel oil, or that redistillation further reduced these poisonous substances, but he did know that these things must be done to produce a good product. The modern moonshiner distills to the limit and sells his product without ageing. Contrary to the general belief, ageing

does not get rid of fusel oil, but increases it as the concentration of the liquor increases. The knockout effect of new liquor does not appear to be due to fusel oil, but to its aldehyde content. On account of the lack of control over the fermentation of the mash by the moonshiner, there is a considerable amount of oxidation of ethyl alcohol into acetaldehyde, and even to acetic acid.

Many thousand analyses have shown that the ranker the liquor, the higher the aldehyde content. It is known that acetaldehyde is a rapid poison producing profound stupor and deleterious after-effects, and this product is the substance which is chiefly responsible not only for the aberrant type of alcoholism now seen, but also for the high mortality.

The use of moonshine liquor made from sugar, grain or fruit, sold as "Pure Corn Liquor" or straight "Moonshine," has apparently received a boost through the publicity given to the dangers of wood alcohol. The drinking public has seemed disposed to resort to these liquors of what they believe to be known origin under the impression that they are pure and safe. The results are ghastly.—*American Journal of Public Health*.

DIATHERMY IN PNEUMONIA

Dr. Harry Eaton Stewart of New Haven, Connecticut, in an article read before the annual meeting of the Rhode Island Medical Society June, 1923, and published in the *Rhode Island Medical Journal* October, 1923, says:

Modern Physiotherapy had its inception in the Medical Corps of the army. There for the first time all of the physical means of treatment were grouped together under the control of regularly trained medical men who specialized in physical therapeutics. More than a quarter of a million treatments per month are still being given by the Government Medical Agencies. The results have been on the whole very gratifying, and they indicate post-war government work. *Pneumonia* is one of these conditions.

Electricity was very widely used in the Service work, and diathermy proved to be perhaps the most valuable modality. The heat produced by this current develops deeply within the tissues, differing sharply therefore from other methods, the aim of which is to drive heat into the body from without.

American physicians, among them Byron Sprague Price and Frederick DeKraft of New York, were the first to suggest or to employ diathermy in pneumonia. They were, however, no detailed case reports nor any information which would throw light on the value of diathermy in pneumonia as far as the writer is aware, until his publication of the first ten cases treated under his direction at the U. S. Marine Hospital No. 21, New York City, in 1922. As far as is known there is no mention of this subject in foreign medical literature. For some time it was thought that diathermy would help in the treatment of lobar pneumonia. From every point of view it seemed reasonable to suppose that a centrally located heat of from 110° to 120° F. developed in the affected lung with-

out any cost to the body in instituting this rise in temperature should have a favorable effect upon the pneumonia process. It was believed that this heat would dilate the pulmonary capillaries and lymphatics, promoting a more active circulation. Perhaps to some extent it might also "melt down" the exudate, thereby increasing the amount of pulmonic ventilation. Also it was thought possible that it might inhibit and to some extent destroy the organisms and reduce, through its known analgesic effect, any associated pleuritic pain.

Dr. Young, Medical Officer in charge of the hospital, and Dr. Bryan, his Chief of Medical Service, agreed with me that we would use it on the first case which seemed beyond medical help. The first case occurred in January, 1922. The results we obtained were startlingly favorable, the temperature dropped by lysis, each treatment gave marked symptomatic relief, and the man made an uninterrupted recovery. We realized that this result might be merely accidental, that such things occur particularly often in this disease, and yet we were sufficiently encouraged to continue with this form of treatment.

The first series of ten cases were reported to the American Electrotherapeutic Association last September and printed in the October number of the Society's Journal.

In the fairly large group treated since, the following routine has been carried out:

The daily physical findings were made in each case by the ward surgeon, Dr. William T. Boland, and the present medical chief, Dr. John Ridlon. The charts kept by the nurses were carefully checked up. The laboratory work was done by Dr. Taylor, chief of that Service, and the department of physiotherapy was concerned simply with the actual administration of the treatments.

The work done during this last winter, fall and spring is reported by the permission of Dr. C. H. Lavinder, present Medical Officer in Charge. The writer is especially indebted to Dr. Boland for gathering together and analyzing data, including blood pressures, etc.

These hospital cases together with several groups from private practice of myself and colleagues give us about seventy cases to date in which diathermy has been used in lobar pneumonia.

We have had all types of the disease checked up carefully with complete clinical records and a fairly large group of controls in the hospital. It is realized that this is not a sufficient number of cases in which to reach definite conclusions, but they certainly justify further use of this form of treatment.

The writer has been encouraged to continue this work by the fact that every aide, nurse and physician who has actually seen the treatment properly given has expressed their faith in it. Further study may demonstrate that diathermy is not equally efficient in all phases of the disease, perhaps even contraindicated in some.

To treat cases by diathermy the physician must have an efficient piece of apparatus delivering a good

D'Arsonval current and supplied with a meter. He must understand the physics and physiological effects of the current and know his technique. While diathermy technique is not very complicated, it is rather exact. As in other types of treatment the earliest possible administration of diathermy is desired once a diagnosis is made. As far as the writer is aware, no case has yet been lost in which diathermy was used before the third day. This does not mean that cases treated early will not be lost in the future, but it at least emphasizes the value of early treatment. We do not have to wait until the sputum has been typed as is the case in using serum in type I. The word "cure" is not used nor meant to be implied in this paper. It is the writer's personal opinion that an adjunct which may be applied to all types of the disease, which will prove at least as effective on the average as serum has proven in type I, has been found.

The Nature of Diathermy. Let us consider for a moment a few features relating to diathermy and its effect on living tissue. Diathermy is the application of the bipolar high frequency current of D'Arsonval, discovered by him about 1890, and first used in this country in 1906. Its use in hospital practice by means of modern apparatus dates back to only 1910. Our experience with this modality in the government work must have exceeded a million treatments in 1919, and is still not far from that figure annually. New indications for its use in certain pathological conditions of lung, heart, kidney and brain are rapidly being worked out. Pneumonia and empyema are two of these conditions.

The D'Arsonval current is one of high voltage and relatively high amperage which oscillates with extreme rapidity. The apparatus should by preference be supplied with a 110 volt, 60 cycle alternating current. This current it "steps up" in voltage to many thousand, cutting down the amperage in direct proportion and increasing the alterations to a million or more per second. The current thus produced has been compared to water power, particularly to a stream coming from a fire hose through a spray nozzle, harmless, yet with great power behind it.

The *spark gap* requires constant care in order that the current may be smooth in quality, free from faradic effect and of sufficient volume due to proper charging of the condensers. The *milliamperemeter* consists of a wire in the circuit which expands by the heat produced, moving the needle on the scale. It indicates the total amount of current the patient is receiving, but does not indicate with any exactness the amount of heat actually being generated in the tissues. This depends upon the current density, that is, the number of milliamperes per square inch of electrode, and the density of the tissues through which the current passes. For instance with 2,000 milliamperes of current and 5 x 4-inch plates we have a current density of 100 per square inch of electrode. This meter reading and these plates would develop far greater heat applied to the knee joint than to the abdomen or chest.

If the plates were larger less heat would be devel-

oped in either locality. In the consolidated lung we have an intermediate condition of soft tissue density and use from 1,000 to 2,000 milliamperes of current by means of about 5 x 7-inch electrodes. It must be remembered that the heat produced varies as the square of the current strength, therefore, slightly increased meter reading may mean considerably greater heat production.

The *physiological effects* of diathermy on living tissue naturally differ greatly from those of any form of external heat. We obtain locally very little effect upon the skin with the use of the proper technique. In the deeper part of the pathway of the current we have the main effect, which is an acute temporary dilation of the capillaries. This causes both a thinning of the capillary wall, and widening in the intercellular spaces, resulting in an augmented outpouring of blood serum rich in repair material. It means also that in a given tissue area there occurs a vast increase in all of the blood elements, the erythrocytes with their contained oxygen and of phagocytes which enhance the local resistance to bacterial invasion. The net result is to double or triple the local repair material and protective forces and to promote those cellular interchanges of gases and fluids upon which metabolism depends. Thus a temporary active and not a passive congestion is brought about. The resistance to the circulation which takes place in the finer capillaries is lessened by their dilation. Hence the speed as well as the volume of the local circulation is increased. The lymphatic drainage is also augmented. The oscillations of this current are so rapid that no ionic movement and no muscular contraction is induced. Pain is relieved by the effect of the current on sensory nerve endings within its pathway. Within a very short time after the cessation of the current the capillary dilation disappears. Systematically there is a slight rise of body temperature due to the circulation of the heated body fluids, the same factor which prevents local external heat from having any degree of penetration.

In febrile conditions such as pneumonia little further increase in temperature is found during the treatment. As a rule both systolic and diastolic blood pressure is reduced slightly. In pneumonia the reduction is often quite marked and was for a time considered a contraindication to its use in patients with hypotension.

A number of experiments are given in the literature which illustrates the effect of diathermy, showing an increase of body temperature, which may reach as high as 20° F. on the skin between too closely placed electrodes from the so-called edge effect developed between them. It is very easy to cook meat, potatoes or egg albumen between the electrodes with this current. Here we have no fluid diffusion to prevent excessive heat accumulation. In various experiments upon living animals the temperature has been raised from three to twenty degrees. We may be absolutely certain, however, that no destructive effect is obtained where the proper technique is employed.

Apparatus. Practically all of our work was done

with small compact portable apparatus supplied with a meter. It is necessary to use one which will deliver a D'Arsonval current of good quality and up to 2,000 milliamperes. A machine which will show a high meter reading with a comparatively low spark gap is to be preferred.

Electrodes. In all of our pneumonia work we have used composition 22 gauge flexible metal electrodes. This material comes in sheets at moderate cost and can be cut into convenient sizes and shapes. The edges should be sharply turned back and rolled flat with a slightly longer flap on one end for the attachment of the cord clip. Some prefer the thinner metal which may be doubled and still remain very flexible.

Technique. With a pair of plates suitable in size to the involved area of the lung and the machine set up, we are ready for the treatment. The electrodes are covered with heavy warm shaving soap lather. The posterior one clipped to the cord and turned lather side up on a heavy folded bath towel. By depressing the mattress this electrode may be gently moved under the patient to the desired location without disturbing him in the least. The anterior plate is then clipped on and placed on the chest wall so as to include the affected lobe or lobes directly between the two plates. They should not approach each other on the lateral wall of the chest, otherwise an undue amount of current will pass between these near edges rather than through the affected lung. The posterior plate is secured by the patient's weight. The anterior one may be gently held on the chest or secured by adhesive plaster. Cords and clips should be covered so that they will not be torn loose by a restless or irrational patient. With everything in readiness the rheostat and spark gap are slowly advanced until the desired amount of current, usually between 1,000 and 2,000 milliamperes is reached after about five minutes. This is maintained from fifteen minutes to an hour, usually twenty to thirty minutes, after which it is slowly reduced during a further period of two or three minutes to zero. If it is desired to localize the heat more sharply this may be done by using a slightly smaller electrode nearer the point it is desired to reach. If any points of burning or tingling are complained of, turn the current slowly off, reinsert more soap lather with finger or brush, press the electrode gently in place, and again turn on the current slowly. As a rule the treatments are given twice a day, but there is no reason why in the critical stage of the disease more frequent applications should not be made. One treatment a day is probably sufficient during the period of resolution.

Results. I do not need to remind the members of this society as to the caution which should be exercised in accepting any new treatment as of value in a disease which varies so greatly both in type and seasonal epidemics as does pneumonia. In estimating the value of diathermy in this disease many factors must be reckoned with. Among these are the patient's age, previous indulgence in alcohol, the day of the disease in which the treatment is first instituted, his care up to that time, and the concurrent nursing and

medicinal treatment he received. Furthermore the effect of the treatment on the mortality rate, temperature, pulse, respiration, additional lobar involvement, rate of resolution and complications should all be made clear.

Our cases were all adults, nearly all of them merchant seamen, averaging about thirty-five years of age, and many of them were moderate users of alcohol. Most of them were taken ill on ship board with little skilled care until they arrived in the hospital. Judging from the mortality figures obtainable, the rate in such a group should be about 40%. We had a group of twenty-one control cases whose treatment and care was similar except that they did not receive diathermy. In the group treated by diathermy the mortality was less than 20%, in the control group it was 42.9%. A number of other cases treated by diathermy outside of the hospital added to those so treated in the hospital, gives an average mortality of less than 12% so far. Among the deaths in the cases treated by diathermy were two in which five lobes were involved, two others in which four were involved, and none of them received diathermy before the third day. Temperature, pulse, respiration and rate of resolution all seemed to be favorably effected by the treatment. Extension of the disease, however, to other lobes was not prevented. The temporary symptomatic results were quite marked in nearly every case treated.

This period of lessened pain and dyspnoea lasted in most cases several hours and was in itself enough to justify the use of diathermy in these cases.

In concluding, I wish to emphasize the absolute harmlessness of diathermy in these cases when properly employed. No definite contraindications for its use have yet appeared, but as before stated a larger group of case reports may reveal such contraindications. In view of the fact that symptomatic relief is almost certain, that the treatment is without danger, and that the figures so far show a marked reduction in mortality, which we have every reason to believe will be confirmed when more cases are available for study, I feel that the further employment of diathermy in pneumonia is absolutely justified.

Read before the Annual Meeting of the Rhode Island Medical Society, June 7, 1923.

SOME VIEWS ON HYSTERICS AND THE WOMAN OF TODAY

The (hysterical?) woman of today Warner Fabian depicts thus:

Restless, seductive, greedy, discontented, craving sensations, unrestrained, a little morbid, more than a little selfish, intelligent, uneducated [in some cases educated —Ed. M. W.], sybaritic, slack of mind, trim of body, neurotic, vigorous, a worshipper of tinsel gods or perfumed altars.

Well, now that we have that all settled,

'N'Ev-rything,

What are we going to do about it?

"Move we 'journ!"

"Mr. Chairman, we ain't heard nothing yet. Speak-

ing of hysterics and feminism I would like to offer the following from the *New York Medical Journal*:

"But how about the ultrafeminines who plunge in violent recoil into social frivolities, vanities, pranks, intrigues, excesses? Two extreme camps are being formed, the mannish and strenuous and the overfeminized and purposeless, more or less idle and fivolous, selfishly absorbed in clothes, in luxury and pleasure, exacting masculine tribute in mind and kind, and, since every privilege is shared by both sides, liberty, latches and general latitude. Between the two extremes stand the natural, noble and invaluable moderates, content to be normal women and fulfill the role of such."

Now, unless your mind is made up, let us have a view of the woman of today by a woman—a noted woman (Olive Schreiner):

"When in place of the active laboring woman upholding society by her toil, has come the effete wife . . . clad in fine raiment, the work of others' fingers, fed on luxurious viands, the results of others' toil, waited on and tended by the labors of others. The need for her physical labor having gone and mental industry not having taken its place, she bedecked her person or had it bedecked or scented; she lay on her sofa or drove or was carried in her vehicle and loaded with jewels; she sought by dissipations and amusements to fill up the inordinate blank left by the lack of productive activity. And the hand whitened and became softened till at last the very duties of motherhood, which were all the constitution of her life left her, became distasteful and from the instant her infant came damp from her womb it passed into the hands of others to be tended and reared by them and from youth to age her offspring owed nothing to her personal toil. . . . She had attained to the full development of that type which, whether in Paris, New York or London, or in ancient Greece, Assyria or Rome, is essentially one in its features, its natures or its results. She was the 'fine lday,' the human parasite, the most deadly microbe which can make its appearance on the surface of any social organism."

From the *Urologic and Cutaneous Review* for April we further quote this further woman's view, according to the novelist, Mrs. E. L. Linton:

"The girl of the period is a creature who dyes her hair and paints her face as the first article of her personal religion. Whose sole idea of life is plenty of fun and luxury and whose dress is the subject of such thought and intellect as she possesses. The girl of the period has done away with such moral muffishness as consideration for others, as regard for counsel and rebuke. If a sensible fashion lifts a garment out of the mud, she raises hers midway to the knees. . . . Talking slang as glibly as a man and by preference leading the conversation to doubtful subjects."

Now, brethren, let's hear the conclusion of the whole matter. After this we will be ready to vote on the questions: "Shall our sons marry the woman of today?"

"Are the hysterical females as hysterical as we think they are?"

From *The Bookman*, March, 1923, Simon Pure, commenting on "La Garconne":

"What I wonder is how long we are going to be shocked at the young girl. She is certainly doing at the present time a whole host of deplorable things; she is maniacally selfish, she is raffish, vicious, degenerate; but not all of her is bad. Not every example of her is even what I have said. In fact, the girl who is regarded as the typical product of the age perhaps exists in small numbers. Besides which the bad ones will be exterminated by sheer physical exhaustion."

And, to quote *Medical World*, June, 1923, page 199:

"The young lady of today is more advanced in civilization, is more or better informed, can the better take care of herself in any situation, dresses more hygienically, is better looking, is different."

There is today the widest variety among them. There are still many who have not been caught in the whirlwind described above—they live in small towns or on the farm—perhaps a few live in the city. Yet the tendency is toward the whirlwind. If the tendency continues for a generation or two they will all be in the whirlwind and it will become a tornado and it will be destructive. Maybe we will wind up like Nineveh. —*Medical World*.

TREATMENT OF DYSMENORRHEA

Leonard Phillips, M. S., M. B., B. Sc., London, F. R. C. S., England, in the *Lancet*, June 16, 1923, in an article in the treatment of dysmenorrhea, with an analysis of one hundred cases, says:

The cases, all of which were treated medically in the first instance, were divided as far as possible into clinical types. An analysis of the case papers brought out the following salient features: Almost all the patients pursued a sedentary occupation, all were either single or sterile if married, and the majority had some menstrual irregularity, generally of the nature of excessive loss. Menorrhagia was usually associated with some degree of arrested development of the genital organs. No case had any organic disease. The type and position of the pain were most variable; it might be iliac, or hypogastric, or sacral; it might occur before, during, or after the flow, and sometimes during all three, when it was commonly associated with the passage of clots. Constipation was severe in half the cases. The majority of the patients were poorly developed, with weak abdominal muscles, faulty posture and breathing, and anæmia or visceroptosis, and many had other complaints, such as headache, vomiting, frequency of micturition, and diarrhoea.

Pelvic examination was conducted by the rectum in the unmarried, and by the vagina in married women. The arrested development of the pelvic organs which occurred in half of the cases was one of three types: (i.) A small acutely anteflexed uterus; (ii.) a small retroverted uterus, with a short anterior lip to the vaginal cervix; (iii.) a small retroverted uterus with a short anterior lip to the cervix. These were associated with poorly developed breasts and a male type of pelvis, and with menorrhagia or fortnightly losses

much more frequently than with scanty menstruation.

Treatment—Fifty cases were treated with extracts of ductless glands, either alone or in combination with antispasmodics. The best results were obtained by the following combinations:

- (1) Mist. Cascara co. daily throughout the month.
- (2) Hormotone, 1 tabloid t. d. s. for seven days before and during period.
- (3) If unrelieved, the following every three hours till relief was obtained (up to four doses).

Phenazone	5 gr.
Ext. caulohyllin liq.	15 minims.
Caffeine	5 gr.
Aq. chlorof.	1 oz.

—or—

Phenazone	} 4 gr. of each. Repeated three hourly up to four doses in cases where pain was severe.
Aspirin	
Pyramidon	
Caffeine	

Sometimes Tinct. Belladonnae 5 minims was added to the above mixture, and sometimes other antispasmodics such as benzyl benzoate were substituted. Sometimes atrop. sulph. 1/100 gr., as a tabloid, was used.

Forty-six of the fifty cases so treated were relieved. In some cases pain was not abolished, but diminished, and in all the forty-six cases the patients were enabled to work throughout the period in comparative comfort. Often when the tabloids were omitted the painful periods returned, only to disappear at the next period when the hormotone was readministered.

Clinical Types

In treating these cases an attempt was made to interpret all the available information and evolve a plan of treatment based on the recognition of the following clinical types:

In Type 1 dysmenorrhœa was a disease of faulty hygiene, upbringing and surroundings. This type was thin, anæmic, constipated and poorly developed with visceroptosis and faulty posture and breathing. They followed sedentary lives with little exercise and fresh air. The feeble musculature of the uterus was easily exhausted and gave rise to cramp and pain when called upon to make expulsive efforts in the exhausted state. The treatment was directed to the correction of these faults. The correct mental attitude was cultivated by teaching the patient that menstruation was natural and that she must continue to bathe and take exercise as usual. No constricting clothing should be worn and stays must not be permitted to do the work of the abdominal muscles. Constipation was to be corrected by drinking plenty of water and eating fruit, combined with abdominal kneading night and morning. Purgatives should only be a temporary expedient. Exercise such as walking or tennis, and special exercises designed to strengthen the abdominal wall formed an important part of the treatment. Finally the importance of faulty upbringing and surroundings as a factor in the production of dysmenorrhœa and the need of improving these was emphasized. It was not so com-

mon to find a robust girl suffering from dysmenorrhœa.

In Type 2 the dysmenorrhœa was functional. These women complained not only of menstrual pain, but generally of headache, nausea, constipation as well. They were usually nervous and worried. Ten such cases were treated successfully by sedatives: (a) Bromides and salicylates between the periods; (b) luminal gr. i. gr. iss. nightly during and just before the period; and (c) general hygienic measures as already outlined, with attention to bowels and eyes.

In Type 3 the symptoms suggested some form of obstruction as the casual factor. This theory had been abandoned by many as it was considered that flexions and narrow os could not obstruct the flow of one-third of a drop of blood per minute, the rate of flow if 4 oz. of blood was lost in four days. However, the blood might be clotted, when obstruction would be possible in a normal internal os and cervical canal. Thin flat casts could be passed without pain, whereas solid rolled-up ones caused considerable pain. Also in some cases of dysmenorrhœa the pain was less or ceased when clots were passed. The pain resembled ureteral and biliary colic in its intensity and sudden onset, and subsided rapidly when the clot was passed, just as in biliary and ureteral colic the pain ceased when the stone was passed. Gynæcologists still continued to employ cervical splitting operations, such as anterior hysterotomy for the relief of pain. Finally, in three cases of hysterectomy for dysmenorrhœa performed during the period, the uterus was found to contain clots. Whether the intra-uterine clot was normal and was not dissolved because of endometrial defect, or whether clotting in utero was pathological, must be decided before the pain could be treated rationally. It was reasonable to suppose that a uterus with a poorly developed musculature might be unable to expel casts or clots even through a normal os.

Type 4. There was a type of patient in which there existed "signs of arrested development of the genital organs." They complained of pain in one or other iliac region alone, or before the central pain. Menorrhagia was as common as scanty flow, because an undeveloped endometrium and musculature were linked up with a normal ovarian stimulus. The obvious treatment was to stimulate development of the uterus, and this was often successful. In addition to the general hygienic treatment organotherapy and electrical treatment were useful.

Organotherapy—Ovarian extract, corpus luteum, thyroid, anterior lobe of pituitary, mixed gland (B. W. and Co.), and hormotone (extracts of ovary, thyroid, pituitary and testes) had been used. Why the latter (hormotone) should have proved the most valuable in this series of cases it is difficult to say. We know that hypothyroidism, hypo-pituitarism, and hypo-oöphorism may all be associated with pelvic hypoplasia—a condition observed in one-half of the cases in this series. Perhaps the "gatling gun" prescription like hormotone might hit the mark where the others failed. The possible part played by extract of testis was interesting.

This extract alone, or combined with extract of prostate, was sometimes successful in dysmenorrhœa. In 1871 Bland-Sutton had pointed out a histological resemblance between the lining cells of the uterus and those of the large intestine, one of whose chief functions is absorption. Arthur Thomson had marshalled a formidable array of arguments to support the view¹ that the endometrium may be mainly absorptive in function.

Electricity in Dysmenorrhœa.—A few of the cases in this series were benefited by electrical treatment, but the treatment was personally administered. High-frequency currents heated up the deeply seated organs so that there resulted: (1) Dilatation of the vessels; (2) relaxation of spasm and inhibition of tone; (3) improvement in blood-supply and consequent improvement in nutrition and growth.

Results

In ten cases where medical treatment had failed, two were cured by curettage and one by anterior hysterotomy. Hysterectomy was performed in two cases where the uterus contained clots and showed marked arterio-sclerosis, and the remainder (very severe cases) were sterilized by radium. One hundred cases treated surgically were followed up and compared with 100 cases treated medically. It was found that 25 per cent were cured, 25 per cent were relieved, and 50 per cent were unaffected, while the best results were in cases treated by curettage. These results were inferior to those obtained in the series of 100 cases treated medically. The speaker believed that most gynæcologists felt that the surgical treatment of dysmenorrhœa without physical signs was on the whole disappointing.

Discussion.

The President congratulated Mr. Phillips upon the patient and successful work in the out-patient department upon which the paper was founded as well as the skill with which the difficulties of nomenclature were overcome by the classification of patients by clinical types. He was particularly impressed by the small number of patients who came to operation (which in his experience cured 50 per cent, relieved 25 per cent to some degree, and left the other 25 per cent in no way improved) and by the greater success of medical treatment.

Mr. Bonney pointed out that the figures of results of treatment of dysmenorrhœa were confused by the variety of causes. If dilatation was limited to cases of the "virginal type" of dysmenorrhœa described by Dr. Berkeley and himself the operative results would be much better. It was remarkable that very small uteri were so often associated with extreme hæmorrhage for which hysterectomy was required. Retroversion was often a cause of dysmenorrhœa in a virgin, and could be cured by reposition of the uterus. He intended to give hormotone a trial.

Dr. Andrews inquired the age of the patients who

¹Arthur Thomson: Problems Involved in the Congress of the Sexes, Brit. Med. Jour., 1922, i., 5.

were treated with radium, and the results of this form of treatment.

Dr. J. M. Brydone said that as a general practitioner he had been called upon to treat many cases of dysmenorrhœa, and found that while patients of 24 years or less could generally be cured, those over that age generally failed to respond to medical measures. There was a large element of suggestion about the treatment, and success was likely to follow care and perseverance. Many of the "masculine type" of women who suffered from dysmenorrhœa played too many games, and got better with rest. He described glandular treatment as achieving permanent palliation rather than cure, since relapse followed when it was discontinued.

Reply.

Mr. Phillips said that the cases treated by radium were all over 35 years old, and there had been no period, and consequently no pain, in any since the treatment. It was important to keep on perseveringly with medical treatment until the right remedy was found.

WOMEN AND MEN IN CRIMINALITY.

Dr. John F. W. Meagher, M. D., in the *Urologic and Cutaneous Review*, says:

"We cannot be sure that we ought to regard the most criminal country," remarks Havelock Ellis,¹ "as that which in some respects possesses the highest civilization."

"Women is not a facsimile of the savages or of prehistoric man," remarks Georgi,² "but, like her ancestors, she has sexual characters peculiarly her own, and she possesses by heredity the tendencies which are inherent in these characteristics. These are, as Darwin would say, secondary characteristics of sexuality which are common to savage and civilized woman."

"Women are everywhere less criminal than men," as E. S. Talbot³ says. "The proportion varies," as Havelock Ellis remarks, "very greatly. In France it is usually four to one; in the United States it is about twelve to one; in Italy and Spain the proportion of women is very small; in Great Britain the proportion of criminal women is extremely large especially for the more anti-social crimes. There has been a steady increase in the proportion of women criminals in England. In 1834 there were less than one in five but they are now more than one in four. The greater tendency to recidivism in women everywhere noted is extremely well marked in England where it is rapidly increasing. Of incorrigible recidivists, a very large proportion in Great Britain are women; forty per cent of the women were previously committed more than ten times. Among juvenile offenders discharged from reformatories and industrial schools as incorrigible the proportion of girls is double that of boys."

"If you regard the general condition of misery as

a sole source of criminality," remarks Enricho Ferri,⁴ "then you cannot get round the difficulty that out of 1,000 individuals living in misery from the day of their birth to that of their death, only 100 or 200 become criminals while the other 900 or 800 either sink into biologic weakness or become harmless maniacs or commit suicide without perpetrating any crime. If poverty were the sole determining cause 1,000 out of 1,000 poor ought to become criminals. If only 200 become criminals while 100 commit suicide, 100 end as maniacs and the other 600 remain honest in their social conditions, then poverty alone is not sufficient to explain criminality. We must add the anthropologic and telluric factors."

Certain crimes both sexes commit about equally. They are usually the most serious. Thus according to Quet  ler nearly as many women are poisoners as men and of parricides 50 per cent are women. The crimes of women are essentially domestic against fathers, husbands and children. A very large proportion are directly or indirectly of a sexual character. Marro⁵ finds marked physical resemblance between women criminals generally and men criminals guilty of sexual offenses. Such have less length of arms and hands, less cranial capacity and greater extension of the transverse curve.

There are probably five causes for sexual variation in criminality especially acting on women. First, physical weakness. Second, sexual seclusion. Third, domestic seclusion. Fourth, prostitution. Fifth, maternity. There are firstly the physical and psychic traditions of the race embodied in the organization of men and women. The extreme but rather spasmodic energy of men favors outbursts of violence while the activities of women are at lower but more even level. Their avocations have tended to develop the conservative rather than the destructive instincts. Aside from this even if women were trained to violence, superior strength of men would still make crimes of violence in women very hazardous and dangerous. Under existing circumstances when a woman wants a crime committed, she can usually find a man to do it for her.

Sexual selection, as Marro⁶ suggests, is diminishing the criminality of women. Masculine,⁷ unsexed, ugly, abnormal women, the ones most strongly marked with the signs of degeneration have the greatest tendency to criminality and hence (to a large extent passed by in the chance of a mate) would tend to be eliminated. In the Baltic or Teuto-Slavonic provinces of Russia, where women share the occupations of men the level of female criminality is high.⁸ Domestic seclusion of women is, according to Havelock Ellis, an undoubted factor in the determination of the amount of woman's criminality. Spain, the most backward of the large countries of Europe, where the education for women is at a very low level and women lead very domesticated lives, the level of feminine criminality is very low. The same is true to a less extent of Italy. There

¹Dance of Life.

²Human Degeneracy.

³Degeneracy: Its Signs, Causes and Results.

⁴The Criminal.

⁵Criminal Sociology.

⁶Anthropometric.

⁷La Puberta.

⁸Criminal Biologic.

is much more criminality among Irish women in England than among Irish women in Ireland who lead a more domestic life. Women criminals according to Marro in marked contrast to men had in a very large proportion more or less honorable occupations. A large proportion of the women are possessed with some property.

The separation of crime from prostitution exerts an undoubted influence in diminishing women's criminality. Were it not for prostitution there would be no alternative but crime for the large number of women who are always falling out of the social ranks. In those families in which the brothers become criminals, the sisters with considerable regularity join the less outcast class of prostitutes, sometimes in league with their criminal brothers but yet possessing a more recognized means of livelihood.

The strongest warrior against criminality in women is maternity. The proportion of criminals among young women with children is very small. Among men, criminal celibates are in a very large majority but among women maternity acts as a still greater deterrent. Not only are young married women comparatively free from crime, but among married women, as Bertillon has shown, those with children are certainly less criminal than those without. Of forty-one criminal women Marro found all but one (who was undeveloped and ugly) had had sexual relationships; twelve had never been married, ten were widows, fourteen were married, but of these fifty per cent were separated from their husbands. While in men the maximum of criminality falls about the age of twenty-five; in women this is not so. While maternity has this beneficial influence, precocious and random sexual relationships have an equally grave influence in the opposite direction. The age of maximum child-bearing, the age of maximum criminality in women is delayed nearly until the age of thirty-five. Women without children are heavily handicapped in the race of life.

Women are not only longer lived than men but have greater powers of resistance to misfortune and grief. Woman, as G. Shrady⁹ remarks, has the advantage of man as regards longevity. She suffers less from accidents, injuries and many forms of disease and is, in fact, more tenacious than man of the limited enjoyments allowed her. For centuries, as J. G. Kiernan¹⁰ remarks, while man has been the hunter and warrior, woman was the farmer, tool-maker, carpenter, tailor, tanner, shoemaker and decorative artist. Every art of civilized nations originated with women. When hunting and war ceased to be the chief male occupation men intruded on arts created by women. Evolution in biology (an advance from the indefinite homogeneous to the definite heterogeneous with a loss of explosive force) consists in the creation of checks. These in man result in the creation of the secondary ego; the source of all ethics. So far as the race is concerned the creation of this secondary ego is most important in women. Checks will not be created when woman is more secure in the "home," gynaeceum,

or harem from evil. Society, as Voltaire has said, is created by women. The nations which seclude women are unsociable. Seclusion, hence, destroys all individuality, the source of all ethical advance.

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M. Bloomfield	Joliet
L. Brannon	Joliet
J. P. Browne.....	Plainfield
H. Brown	Peoria
W. P. Burdick.....	Rockford
E. U. Banker.....	Aurora
F. A. Butterfield.....	Dakota
C. F. Baccus.....	Woodstock
C. M. Bumstead.....	Monticello
W. F. Buckner.....	Watseka
E. L. Brown.....	Bloomington
L. D. Barding.....	East Moline
L. S. Brown.....	Hillsboro
Wm. R. Bradley.....	Galesburg
C. Blim	Crete
Blim & Blim.....	Chicago Heights
C. F. Butterfield.....	Rock City
Balcke & Clary.....	Pekin
Henry P. Bagley.....	Galesburg
L. G. Brackett.....	Waukegan
James Howe Bemisderfer.....	Steger
H. T. Baxter.....	Astoria
W. Bundy.....	Pesotum
Marion K. Bowles.....	Joliet
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⁹Medical Record, Vol. XXXV.

¹⁰Alienist and Neurologist, 1895.

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J. D. Byrne.....	Du Quoin	Chas. E. Chapin.....	Bloomington
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J. F. Cooper.....	Peoria	C. C. Ellis.....	Moline

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A. T. Leipold.....	Moline	Walter L. Migley.....	Naperville
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 H. J. Achard
 F. L. Andrews
 G. Albano
 S. B. Adair
 Nathaniel H. Adams
 E. F. Alstrom
 George Amerson
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 Isaac Abrahams
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 Wm. R. Abbott
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 J. A. Braham
 Frederic A. Bisdorf
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 H. L. Baker
 H. R. Baumgarth
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 Leslie W. Beeble
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H. T. Bruning
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 Richard Fyfe
 F. O. Frederickson
 R. L. French
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 A. W. Gregg
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 M. A. Glatt
 John J. Gill
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 P. F. Gates
 John Phillips Glibbs
 A. Goldspohn
 W. W. Gourley
 John F. Golden
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 Ascher C. Goldfine
 I. J. K. Golden
 Ethan A. Gray
 Benj. Goldberg
 S. M. Goldberger
 G. W. Good
 S. H. Grove
 T. J. H. Gorrell
 H. J. Gahagen
 H. W. Gray
 C. F. Goetzlinger
 E. W. Gardner
 S. Gardner
 A. H. Geiger
 S. C. Hogan
 John R. Harger
 W. H. Hillemeier
 F. A. Hill
 J. S. Hunt
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 Nils Remmen
 Sol Rosenblatt
 L. W. Rosenbaum
 T. E. Roberts
 Harold H. Roberts
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 H. A. Ramser
 O. T. Roberg
 E. Ries
 R. A. Rutz
 Lawrence Ryan
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 A. W. Stillians
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 Hugh R. Schofield
 Bertram W. Sippy
 C. Prun Stringfield
 F. S. Selby
 R. C. Steffen
 Samuel Stein
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 B. D. Satek
 H. Schmitz
 A. E. Stevenson
 C. E. Stanbury
 Charles Schott
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C. F. Yerger
A. Yuska
T. Z. Xelowski
H. Zaczek
O. Zelezny
Lucius H. Zeuch

Correspondence

FROM THE INSIDE LOOKING IN

Chicago, Dec. 15, 1923.

To the Editor:

As the year 1923 closes and the dawn of a new year is at hand, the business world stops to take inventory, in order to correct mistakes of the past year, formulate plans for corrective measures and expansion for the coming year.

The proposed campaign cannot be prosecuted without funds; it must be supported by popular subscription. It is hoped that every doctor will subscribe to this worthy cause. Serious disease diverted from the incompetent will result in the saving of thousands of lives and will prevent much permanent invalidism.

This campaign will achieve two great objectives: A gradual, but ultimate restoration of the medical profession to its merited place in the public sympathy and confidence and the inestimable benefits to humanity through the consequent prevention of disease and the preservation of life.

For the convenience of those who have mislaid their letter of Appeal from the State Society, we hereby reproduce the pledge card:

Please sign and mail to the Illinois State Medical Society.

To the Officers of the Illinois State Medical Society and Members of the Council:

"I am in accord with the proposed newspaper educational campaign in the press of Illinois, unanimously adopted by the House of Delegates of the State Society at the 1922 meeting of the plan recommended by the Council of the Society, and as evidence of my desire to co-operate with the Officers of the Council and of the State Society, I hereby enclose my check for \$..... to aid in defraying the expenses thereof:

Make Checks Payable to the Illinois State Medical Society.

Name.....M. D.

Street

City..... County.....

"Sign the above pledge card, make out a check payable to the Illinois State Medical Society and mail both in an envelope as follows:

From

ILLINOIS STATE MEDICAL SOCIETY,
c/o Cashier, Broadway National Bank,
6371 Broadway, Chicago, Ill.

25 E. Washington St.,

Chicago, Ill.

Lay Public Committee.

What is happening in the great medical world? Doubtless a few favored ones are troubled about how they can cut down their income taxes, but the rank and file have no income taxes to worry about; in fact, their present worries are how to meet the bills of the coming month. What about the correction of the defects of the past year? Can they correct things over which they have no personal control, and the future seems hopeless from the present standpoint? Is it any wonder that the average doctor after battling with medicine for five, ten or twenty years becomes hopelessly apathetic? Is the condition of the rank and file in medicine forever hopeless? No—decidedly not; history repeats itself: while empires have changed over night, and the medical profession, regardless of the people who have been crying "ethics" for decades past, and who never practiced anything they preached, will learn that ethics must be practiced or history will repeat in medicine what she has done to empires, religious and various other organizations of mankind since the beginning of time. Russia, the most autocratic country in modern history, was overthrown in a short while, yet, one week before it happened, men would say it was impossible. Remember nothing is impossible, and if we cannot regulate ourselves within our profession to give everyone a fair and square deal, medicine is doomed to follow regardless of consequences.

Let us stop, look back, and think over medicine from within the profession. What has the profession done for the rank and file? For the sake of convenience we will divide the profession into bolsheviks (majority) and mensheviks (minority). The mensheviks are no doubt satisfied, they are actually living, receiving an equitable price for their services, teaching students, for which they must have dispensaries, attended frequently by people who are well able to pay for services rendered, thereby reducing the bread money of the bolsheviks, they have established

themselves in different hospitals and proceeded under the guise of skill to shut the doors of these institutions to the rank and file, and when a patient has to go to the hospital, away goes another loaf of bread from the bolshevik; they advocate consultations, which are very good sometimes; sometimes the bolshevik loose another loaf of bread because the patient is shanghied. They harangue about the nurse usurping authority (nobody realizes this better than the hen-medic), the chiropractors, the osteopaths, the Christian Scientists—Cook put it over even on the menshivike—he cleaned over \$12,000 in one afternoon and skipped.

Let us ask who has made the nurse the autocrat, the bolshevik or menshiviki? Some years ago the nurse was nothing more than a slave; she scrubbed, cleaned, rastled bedpans, made dressings for twelve long hours at a stretch for a mere pittance, which in some of the hospitals of so-called "Ethical Standards" was taken back in tuition money for a mere smattering of nothing after school hours. Then the hospitals realized if they made the course a year longer she would be more efficient, and would save the hospital paying labor for an additional year. When she became a little versed in the art of putting up a front, she was put on private cases and they collected \$15.00 a week for her services; frequently she was on twenty-four hour duty, too, until the labor workers introduced the ten-hour law for women, and the State stepped in and put an end to the long hours. Then they put her in the laboratory, finally they allowed her to do blood counts, and lastly made x-ray operators and anesthetists out of her, although a State law requires a licensed doctor should be employed in giving anesthesia.

The only place they didn't dare put her was the drug room, and hats off to the druggists, they see that a regularly licensed pharmacist is employed. When the nurse graduated she was reduced to starvation; cases were few and far between when they had student nurses; the girls realized they couldn't make a living, drifted into other lines, few entered training, then came the war, then organization and now these same ethical menshiviki are crying "the trained nurse," and yet they employ them where it is cheaper and charge the public up for expert services.

The chiropractor and osteopath have lined together, realizing in union there is strength, and

if you have money to pay for advertising your good qualities there is still more strength, and say, we have a fairly good idea of anatomy, etc., we actually spend our time studying what we practice; if the medical profession allows nurses to do thus and so, we are better trained than they are, why shouldn't we be licensed to practice our arts.

The Christian Scientist says, well, if a nurse or lay technician can give an anesthetic, examine blood, give x-ray treatment, etc., and the patient is charged for expert services, why haven't we the right to try laying our hands on the pocket-book as well as the people these doctors employ? If we don't do any good, we don't give too much ether, or burn the patient, and since we don't know nothing we can't obscure or err in diagnosis.

It is a good thing to know—every time we mention these sects we advertise them—a good business maxim is never to mention your competitor.

Then we have our various medical societies—each starts with a good program on ethics: first they say ethical laboratories can't have nifty ads, they must be simple cards; a great noise is made about abolishing same, and in a month or two the enthusiasm sizzles out like uncorked ginger-ale. Then they make other plans to abolish certain institutions because they cite plain facts about certain diseases in the newspapers. Their attitude reminds a person of the story of the Irish woman who took her unruly boy to school, and informed the teacher that when Johnny was bad to just hit the boy behind him, and Johnny would become frightened. First they threaten a few poor medical students who must eat to live, then they go after some of their very own outfit that is on the staff and tell them what they will do, at the same time explaining how charitable they are to erring sons; then they follow it up with a show of power in another organization, and still they are just about where they began, and the institution still flourishes. They seem to forget that some of their high class menshiviki are conducting 10, 20, 30 cents, or whatever cents you can get dispensaries under the guise of charity. They overlook that some of these men are using the much accursed nurse to send patients either by fair or foul means to them who ought to go to the bolshevik family doctor; they forget that

people afflicted with venereal diseases pay in cold cash to contract the diseases—no charity, else these men who conduct places of prostitution couldn't parade their wealth and power so effectively as is done at the present time. They forget, too, that some of their own are conducting private laboratories with unskilled help. They forget also that most clinical material for research work is gobbled up—only a favored few get them—which discourages anybody but a rank red anarchist from doing independent work.

We laugh at the man who joins a labor union, but the Federation of Labor, as distasteful as it may seem to some of our very ethical menshiviki, doesn't allow skilled laborers to work for the pittances offered as salaries to medical workers in our journals. Think of asking the Federation of Labor to advertise for men to dig for \$75.00 a month or any organization offering a plumber \$5.00 a day. The representative would probably be booted down the steps and the organization would be boycotted in more ways than one. Ordinary ignorant laborers unable to understand English get \$7.00 a day and no impudence from the boss, either. Compare the present standard of the doctors.

Does the Federation of Labor allow corporations to take half trained boys, men or women at reduced rates like the doctors are allowing technicians, to do laboratory, x-ray and anesthetizing? They not only forbid it, but if the corporation defies it, the work is stopped on the job, until the corporation comes around to their viewpoint. Did they allow Judge Landis to bluff them with unfair wage scale? Even though they might be held in contempt of court, they said that they would rot in jail before accepting such an autocratic ruling, but apparently none were even told they were in contempt. How long did Landis stay in the chair after this episode—it wasn't comfortable after this ruling, and the same corporations who signed the agreements are giving the men their own wage scale.

Does the Federation discriminate between sexes in allowing half trained people to do what is best done by women; or exclude them from the benefits accrued to organized labor except taxation; or exclude them in legislative programs? Are they discouraging child labor in the face of wealth and power? These people may be despised by our ethical menshiviki, but when it comes to taking fees from them they never stop

to think if they didn't receive a living wage and fair living conditions they would lose too.

Compare the attitude of our medical men as a mass with the laboring bodies in their treatment of medical women. True a few more hospitals are taking women internes, but this is an economic factor, no condescension. What is the status of medical woman doing contract work as to salaries? What is the representation of women on the staffs, especially our public institution supported by the taxes of women as well as men? Women do not take up medicine to do the work of scullery maids—do the men who graduated in medicine feel satisfied to clean sewers or sweep streets? Who created a law that a man can do medical work and a woman must be satisfied with whatever is left, even if it is rustling bedpans? Most of our women today graduate from co-educational schools. If the women have no right to hold these places on staffs then they should be turned over to the Christian Scientists to run because the men received the same instruction and are no better qualified.

Why do so many of our ethical menshiviki societies exclude or evade the question of women reading papers on scientific subjects before them, and giving them an opportunity for publicity? Publicity is as good for the women doctors as it is for the menshiviki who decry advertising, yet who do not hesitate to have their faces mugged and epitaphs announced to the public, without any specific occasion for the same, except the divine right of the Pharisee of old, "Oh Lord how good I am." How can the world know we exist when we are shut out of every opportunity to let the world know that we even exist? Does the medical world use the same discrimination when it comes to soliciting membership fees or other donations? There is absolutely no question that medical women are better fitted in lines where it concerns women and children, which was proven by our friends who planned when the Sheppard-Towner bill was passed to have nurses and the mid-wives who were too ignorant to practice only a short while back, carry out this work. The rank and file of men do not have experience in social work and do not see things in the same light as women do. In this class belong the delinquent and abnormal children, our unfortunate prostitutes, the destitute women, who should have a woman to turn to for advice when the rest of the world has thrown them

aside. Did the woman physician get any recognition for the work she did to prevent the passage of this vicious law?

Is it any wonder that our active men are rebuffed by legislators with the rebuke "Doctors have only one vote"? Perhaps after all he was considerate of this individual doctor's feelings; he might have added that one vote was seldom used. Do you think that legislators or laboring people at large will consider the doctor in a political role, when one of their number who has actually succeeded in getting a small political office will come out in the public press and say, if a doctor was elected to a certain position there would be no strikes, because they wouldn't allow it. Laughable to think that a doctor is so narrow he would try to control the right of a man to earn enough to eat and live like a human being. Well he won't have to worry, while labor is organized he won't have a chance, and as far as the corporations are concerned, they should worry about a mere highbrow doctor—that doctor will serve them—they have money and money talks in every walk of life.

I wonder how many of these menshiviki who like class and all the European embellishments of aristocracy ever witnessed a childbirth—did they ever see any come into the world with fine raiment on—the writer never has had such a case, they all come in, male and female alike, stark naked, one just as helpless as the other. I often wonder if these people who are striving to put American medicine on the basis of European medicine ever read the constitution of the United States, and wherein there is anything to specify that all men and women are not born free and equal? I would like to read that particular paragraph—it wasn't in my book.

Has the medical profession in its narrow attitude toward women ever considered the great legislative possibilities in women members? Has the medical profession ever considered that women doctors were pioneers in suffrage work, in laws to protect children and segregate them from criminals, for curtailment of working hours and better sanitation for helpless workers? Has the medical profession ever considered the rôle the woman doctor has played in the past in the formation of women's clubs? Even though we are legislated out by the medical men through jealousy and narrowness instead of incompetence, the women doctors are practicing just as wisely

as the men, and the legislators never tell a woman doctor she has only one vote, even though they hand her bunk. He knows she has one vote and uses it; moreover she has a tongue three times as long and maybe even longer than a medical man. A double edged tongue can do more harm to a politician than ten votes cast against him. He knows that medical women are active in clubs; they talk to lay women, who even if they haven't confidence enough in the medical women because they don't wear silk plug hats, to call them in sickness, listen to arguments which find root, and are the subject of discussion in many other meetings. If she creates a favorable or unfavorable picture of this politician, the voting power will be likewise—politicians are just like doctors, they give when they have to, but the clever politician doesn't care to arouse the ire of the women as a whole—the tongue is mightier than the sword.

Dr. Ochsner's job in trying to smooth out our present difficulties, and to make us work hand in hand, is no light task, because it requires the leadership of Moses, the zeal of St. Paul and the statesmanship of Abraham Lincoln combined plus a super-human effort to bridge over the chasm between the menshiviki and the bolshiviki medicine practitioners. The man who completes this task won't have to write an epitaph in granite that the elements will obliterate in a short while. The whole medical world will write his epitaph not in granite, but in gratitude—the elements will not destroy it.

HELEN B. FLYNN, M. D.

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Book Reviews

A PRACTICAL TEXT-BOOK OF INFECTION, IMMUNITY AND BIOLOGIC THERAPY with Special Reference to Immunologic Technic. By John A. Kolmer, M. D., Dr. P. H., Professor of Pathology and Bacteriology in the Graduate School of Medicine, University of Pennsylvania, with an Introduction by Allen J. Smith, M. D., Professor of Pathology in the School of Medicine of the University of Pennsylvania. Third Edition, Thoroughly Revised and Mostly Rewritten. Octavo of 1,210 Pages Containing 202 Original Illustrations, 51 in Colors. Philadelphia and London. W. B. Saunders Company. 1923. Cloth, \$12.00 net.

Immunology with its many ramifications into diagnosis and treatment of disease had brought to preventive medicine the greatest offering of decades.

1. This work gives to the practitioner and students

of medicine a connected and concise account of our present knowledge regarding the manner in which the body may become infected, and the method, in turn, by which the organism serves to protect itself against infection, or strives to overcome the infection if it should occur, and also to present a practical application of this knowledge to the diagnosis, prevention and treatment of disease.

2. To give to physicians engaged in laboratory work and special workers in this field a book to serve as a guide to the various emunologic methods.

3. To outline a laboratory course in experimental infection and immunity for students of medicine and those especially interested in these branches.

DISEASES OF THE SKIN. By Richard L. Sutton, M. D. With 1,069 Illustrations and 11 Colored Plates. Fifth Edition Revised and Enlarged. St. Louis. C. V. Mosby Company. 1923. Price, \$10.00.

In this work one hundred new illustrations have been added. Six hundred new literary references have been carefully selected. Descriptions of alastrim, itchy points, erosio interdigitalis, blasto mycetica, piokiloderma atrophicans vasculare, melanotic whitlow, multiple benign tumor-like new growths of the skin, rocky mountain fever, the pink disease, perifolliculitis capitis abscedens et suffodens, etc., will be found under new headings.

A TREATISE ON ORTHOPAEDIC SURGERY. By Royal Whitman, M. D. Seventh Edition. Thoroughly Revised. Illustrated with 877 Engravings. Philadelphia and New York. Lee & Febiger. 1923. Price, \$9.00.

In this volume certain procedures that have become standardized in the author's practice, notably astraglectomy and backward displacement of the foot, the abduction treatment, and the like, have been described in detail, and a chapter on collateral orthopaedics have been added in supplement to the bibliographical, statistical, anatomical and clinical data that qualify it as a book of reference.

A MANUEL OF PROCTOLOGY. By T. Chittenden Hill, M. D. Illustrated with 84 Engravings. Philadelphia and New York. Lea & Febiger. 1923. Price, \$3.25.

In this work the author has covered the subject clearly and concisely. He has excluded those operations and methods that have not proved of permanent value.

DISEASES OF THE SKIN. By Frank Crozer Knowles, M. D. Second Edition. Thoroughly Revised. 229 Illustrations and 14 Plates. Philadelphia and New York. Lea & Febiger. 1923. Price, \$6.50.

In this work many practical diagnostic tables have been added, showing the regional distribution of the common skin diseases and the types of lesions tending to involve certain areas.

The section on Roentgen ray therapy has been entirely rewritten, and this important method of treatment has been modernized. Radium therapy has been carefully revised.

Food and other protein tests with the method of

applications is treated in detail. The section on ringworm fungi and eccemoid ringworm has been rewritten.

DIAGNOSTIC METHODS. A Guide for History Taking, Making of Routine Physical Examinations and the Usual Laboratory Tests Necessary for Students in Clinical Pathology, Hospital Internes and Practicing Physicians. By Herbert Thomas Brooks, M. D. Fourth Edition with 42 Illustrations. St. Louis. C. V. Mosby Company. 1923. Price, \$1.75.

This work brings up-to-date the advances made in diagnostic methods since the former edition. As in former editions everything is clear, well defined and to the point. All unnecessary tests have been omitted.

NUTRITION AND CLINICAL DIETETICS. By Herbert S. Carter, M. D.; Paul E. Howe, Ph. D.; Howard H. Mason, M. D. Third Edition, Thoroughly Revised. Philadelphia and New York. Lea & Febiger. 1923. Price, \$7.50.

This book has been thoroughly revised, and much new matter added. The chapter on vitamins has been rewritten and a table of relative distribution of vitamins in the various foods included. The discussion of the feeding of children over two years of age has been enlarged to include the results of the recent critical survey of the food requirements of children.

The pediatric in the pediatric section, the chapter on Rickets, has been entirely rewritten.

There is also a discussion on von Pirquet's method of feeding by "mems," instead of calories.

APPLIED BACTERIOLOGY FOR NURSES. By Charles F. Bolduan, M. D., Surgeon (R), U. S. Public Health Service; formerly Lecturer on Preventive Medicine and Hygiene, College of Physicians & Surgeons, New York City, and Marie Grund, M. D., Bacteriologist, Research Laboratory, Department of Health, City of New York. Fourth Edition Thoroughly Revised. 12 mo., 195 Pages, Illustrated. Philadelphia and London. W. B. Saunders Company. 1923. Cloth, \$1.75 net.

In this work the previous edition has been carefully revised and amended. Some new material has been added; a note on typhus fever and its diagnosis, a statement concerning the work of Noguchi on yellow fever; an account of the recent studies on Botulism, etc., has been added.

A COMBINED TEXT-BOOK OF OBSTETRICS AND GYNECOLOGY. By J. Munro Kerr, M. D.; James Hague Ferguson, M. D.; James Young, M. D., and James Hendry. New York. William Wood and Company. 1923. Price, \$10.00.

In this volume the authors have attempted to correlate more closely obstetrics and gynecology. The authors hold that a combined text-book on these two subjects will impress the medical student with the importance of a thorough knowledge of obstetrics, and with the fact that the great majority of ailments encountered in gynecological practice are the

result of infections and injuries contracted during parturition.

CARE OF THE BABY. A Manual for Mothers and Nurses Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M. D. Seventh Edition, Thoroughly Revised. Philadelphia and London. W. B. Saunders Company. 1924. Price, \$2.00.

In this seventh edition the author has brought the subject up to the present time. New illustrations have been inserted. The text relating to the management of pregnancy and allied topics has been revised.

THE TRUTH ABOUT SPIRITUALISM. By William S. Sadler, M. D. Chicago. A. C. McClurg & Company. 1923. Price, \$2.50.

In this work the author begins by stating the reason for the widely spread belief in spiritualism—he shows how this belief which is apparently born of a desire to live again, is inherent in the majority of the human species.

He sketched various spiritualistic movements which have happened from time to time, devotes two chapters to the physical and psychic phenomena of spiritualism, presents his opinion of the moral and ethical aspect of the subject.

A CRITICAL EXAMINATION OF PSYCHO-ANALYSIS. By A. Wohlgemuth. New York. The Macmillan Company. 1923.

The author divides the work into ten chapters as follows: Psychological statement; Psycho-analysis and the unconscious; dreams, symbolism; the oedipus-complex; homosexuality; the psycho-analytic method and suggestion; other manifestations of the unconscious; odds and ends; summary and conclusion.

MEDICAL AND VETERINARY ENTOMOLOGY. A text-book for use in schools and colleges as well as a hand book for the use of physicians, veterinarians, and public health officials. By William B. Herms. Second Edition. Completely revised. New York. The Macmillan Company. 1923. Price, \$5.50.

In this edition a historical account of the development of medical entomology has been added. Many new illustrations have been added and a few old ones have been replaced.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued Serially, one number every other month.) Volume VII, Number III. November, 1923. (Boston Number.) Octavo of 421 pages and 66 illustrations. Per clinic year (July, 1923, to May, 1924): Paper, \$12.00; cloth, \$16.00 net. Philadelphia and London. W. B. Saunders Company.

The contributors to this number are: Drs. Berry, Broun, Christian, Crothers, Davidson, Fits, Granger, Gray, Jackson, Jones, Joslin, King, Levine, Locke, Lord, McClure, Mella, Mills, Minot, Pratt, Rackeman, Reid, Robey, Root, Rowell, Shedd, albot, Trainor, Franklin W. White Paul D. White and J. Edwin Wood.

THE SURGICAL CLINICS OF NORTH AMERICA. Volume 3. Number 6. (Kansas City Number.) Index Number. Published Bi-Monthly. Philadelphia and London. W. B. Saunders Company. Price per year, \$12.00.

The contributors of this number are: Drs. Burns, Dickson, Divcley, Francisco, Frick, Hayden, Hertzler, Irland, McKenna, Nesselrode, Ockerblad, Orr, Schauffer, Sutler, Twyman and Wahl.

ON THE QUESTION OF CONGENITAL PRE- DISPOSITION IN PLURIGLANDULAR INSUFFICIENCY

A case of congenital functional and somatic hypogenitalism with absence of secondary sex characteristics, and especially with puerile voice by reason of a hypoplastic larynx; congenital hyperplasia of the parotids; extensive thyroid hypoplasia; symmetrical scleroderma of both thighs and feet; keratitis, related perhaps to the sclerodermic process. Cataract, hypogenitalis, and parotid hyperplasia here form the substratum of a congenital hypoplastic tendency on the part of the endocrine glands, upon which, after a period of postnatal latency, was founded a progressive multiple sclerosis of those glands. The hitherto little recognized participation of the parotid glands in polyglandular diseases is especially pointed out by the author. In myotonic dystrophy of manifestly pluriglandular origin congenital hypoplasia of the testicles and sexual infantilism are also seen; and Curschmann has observed them likewise in myasthenia where pluriglandular disturbances were unquestionable. In hypothyroidism again not only is cretinism, as Krabbe shows us, to be attributed to a congenital tendency to pluriglandular insufficiency, but so are certain cases of congenital thyroid hypoplasia without struma and without general cretinoid degeneration, which nevertheless exhibit signs of parathyroid hypoplasia as well. Further still, certain individuals of eunuchoid appearance, who in adult life develop a typical myxedema in response to external stimuli, such as undernourishment, display the same tendencies as to those who develop myxedema in their declining years. Congenital endocrine disturbances may finally play a part in rachitis, especially late rachitis, and in osteomalacia.—H. Curschmann (*Zeitschrift für die Gesamte Neu-*

BOY'S TIMEPIECE

"Mummy, is it my lunch time yet?"

"No, darling, not for another hour."

"Well, then, my tummy must be fast."—Passing Show (London).

IMPOSSIBLE

Doctor: "Put out your tongue—more than that—all of it."

Child: "But, doctor, I can't. It's fastened at the other end!"—Le Rire (Paris).

Original Articles

CERTAIN MEDICAL AND SURGICAL ASPECTS OF DISEASE OF THE BILIARY APPARATUS*

WILLIAM J. MAYO, M. D.,
ROCHESTER, MINNESOTA.

The modern doctrine of focal infection, while it has achieved a permanent place in medical literature, has not yet become crystallized, and many aspects of the subject are still under discussion. We are ready to accept the hypothesis that the entrance to the alimentary tract, in the nature of things, harbors pathogenic bacteria against which the individual is not always adequately protected, but unfortunately, we do not always know how adequately to protect him. While our hopes for the cure of diseases that are the result of focal infection have not been fully realized, we have at least, justified the doctrine of prevention. The teeth, tonsils, and **other common areas of chronic focal infection** are now regarded as matters of public as well as of private health.

Perhaps the most serious reason for failure to relieve many conditions having their origin in focal infection is that while the original focus may be removed, the secondary infections, that have gained a foothold elsewhere in the body as a result of the primary lesion, continue their manifestations either through chronic bacterial infections or, possibly, bacterial protein reactions. It is hoped that further investigations will develop measures to insure more complete immunity.

THE RELATION OF INFECTIONS OF THE GALLBLADDER TO CARDIAC DISEASE†

We are just beginning to realize that, in concealed situations in the body, there are areas of possible foci of infection; of these, the gallbladder stands out distinctly, the following case being a striking example. About twenty years ago a woman, with pronounced cardiac incompetency of the mitral type, came under my care. She had cardiac dyspnea and considerable edema, and was confined to bed. Besides the cardiovascular manifestations, there was definite infec-

tion of the gallbladder, and a history of severe and prolonged gallstone colics. The patient was a poor surgical risk and operation was not considered advisable, but with proper management it was expected that the cardiac incompetency might be relieved. The patient improved markedly under digitalis, but when she was about ready to go home a sudden, severe attack of gallstone colic ushered in a pronounced exacerbation of the cardiac symptoms. The history was now properly developed. The first cardiac attack had been associated directly with gallstone colic, and thereafter each recurrence of acute gallbladder infection was followed by an increase in the cardiac damage, the condition resembling that with which we had become familiar in connection with acute relapsing tonsillitis, initiating the cardiac complications of so-called inflammatory rheumatism. When the patient had recovered sufficiently, the gallbladder, which contained stones, was removed. Her recovery was uneventful and she lived for many years in good health. There were no further exacerbations of the heart disease, although the evidence of permanent cardiac crippling remained. Following this experience, I operated on the gallbladder, in spite of cardiac symptoms, in a number of instances. The results have not always been as striking as in this case, but in the main have been good.

It must be recognized that, without sufficient evidence of disease of the gallbladder, great abuses would follow the reckless assumption that a given heart lesion may have its origin in the gallbladder. Operations on the gallbladder in such cases should not be performed, unless the clinical signs and symptoms warrant operation in the absence of cardiac symptoms, but we should not allow ourselves to be deterred from a necessary operation on the gallbladder because of such a heart complication.

Cardiology has become so highly specialized that one almost fears to tread on this sacred ground, but we cannot all be cardiologists or have at hand a competent adviser in cardiac cases. I have found a classification of cardiac syndromes, based on Richard Cabot's, useful, and compatible with clinical experience.

The first type of heart disease begins usually in the adolescent period, often follows so-called

*Read before the Inter-State Assembly of the Tri-State District Medical Association, October 29 to November 1, 1923, Des Moines, Iowa.

inflammatory rheumatism and tonsillitis, and is seen in the course of chorea. Its incidence is greater in females; it affects the right side of the heart, and the mitral orifice and valves, and is easily detected by the harsh murmurs, the heart's heaving impulse, and its increased size. Because the heart is noisy, many practitioners advise against any operation, no matter how necessary. In this type of case, I have never known death to occur that could be truly charged to a surgical procedure, provided the heart was well compensated. It is this particular variety of heart lesion which I have noticed a number of times in connection with gallstone disease.

The second type might be called cardiorenal; the entire vascular system is involved; the blood pressure is high; there are cardiac hypertrophy, and evidences of chronic vascular nephritis (Bright's disease Number 2). This is more common in middle-aged men. I have not seen it directly connected with gallstone infections.

The third type is the syphilitic, again more common in middle-aged men; it involves the base of the heart and the aortic valves, and develops aneurysms, and aortitis limited to the arch. The history, the development of the Wassermann reaction, and the x-ray afford valuable diagnostic information. Angina pectoris often develops as a later manifestation of the aortitis. Gallbladder disease is at least of average incidence in the syphilitic patient, and acute exacerbations of infection may usher in an attack of angina. The removal of gallstones in the syphilitic patient may be indicated in spite of the angina, and the relief afforded may be great.

In the fourth type disease of the coronary vessels causing anginal attacks is sometimes complicated by disease of the gallbladder, and this complication may initiate changes in the coronary vessels. I have followed several such cases to postmortem, and the only pathologic changes to be found were in the coronary vessels and gallbladder. Willius, in a recent study of eighty-seven cases of heart disease coming to necropsy in the Clinic, found that coronary sclerosis and disease of the gallbladder were associated in twenty-one (24 per cent.).

The fifth type of heart disease which may possibly be related to focal infection is more vascular than cardiac. Essential hypertension is common and due to many causes. In women of overweight especially, gallstones are common, and

after removal of the diseased gallbladder, the general condition often improves remarkably, the blood pressure is lowered, and if a suitable régime is instituted to overcome the overweight, such improvement is maintained. I have operated on many patients suffering from hypertension from various causes, and if death has followed, I have never been able to trace a connection between the death and the hypertension. There is still much to be learned with regard to the metabolism of fats. In the average case cholesterol, which is a lipoid stored in fat, is one of the chief constituents of gallstones and may have some relation to adiposity. It has been shown that in pregnant women, the cholesterol blood content is twice the normal. During or after pregnancy, the first manifestations of gallstones frequently develop. Moynihan carefully observed a series of cases of gallstone disease, and found that while the normal cholesterol content is 0.133 to 0.162 per cent., in gallstone disease it is, on the average, double, confirming the observations of Aschoff and Rothchild.

The sixth type of cardiac disease is the toxic, seen often in cases of exophthalmic goiter, but not sufficiently often in gallstone disease to permit the belief that it commonly originates in infections of the gallbladder. Willius reports that in 1918, in 290 surgical cases complicated by heart disease there were three cardiac deaths (1 per cent.). The cardiac disease included the more serious types, such as auricular fibrillation, auricular flutter, complete heart block, delayed auriculoventricular conduction, arborization block, mitral stenosis and aortic disease.

THE RELATION OF LESIONS OF THE GALLBLADDER TO CHRONIC ARTHRITIS

The arthritides can be classified rather simply. Barker places first the arthritis of acute rheumatism, which often damages the heart, but never leaves a permanent residue in the joints in the nature of chronic arthritis. This type is most common in young women. The second is the so-called rheumatoid arthritis of the atrophic type, in which the smaller joints are affected first, with claw-like contracture; there is gradual progression to the larger joints, until the crippling is complete. The cause apparently is a change in metabolism, and not a direct infection. The third are the hypertrophic types of rheumatoid arthritis which more commonly involve the large

joints and progress to the smaller, but sometimes remain confined to the phalangeal joints or to one large joint, such as the hip, following traumatism. While there is no direct evidence connecting the manifestation with the gallbladder, it seems possible that its causative agent, direct or indirect, may be some form of unidentified microorganism.

It should not be forgotten that manifestations in joints may occur with blood dyscrasias, and as a result of neurologic diseases. When there is sudden, purplish enlargement of a joint from distention with blood, the history of the case should be developed, and the blood examined for hemophilia. Angioneurotic edema may be confused with arthritis, as may also the joint manifestations of chronic hysteria, and the Charcot's joint of tabes which, in the rare case, is painful. The specific joint infections due to the bacilli of tuberculosis are recognized as white swelling. Syphilis should be thought of in chronic arthritis, especially in those suffering from congenital syphilis.

All the remaining forms of arthritis may be regarded as generally having origin in a focal infection of which the infected gallbladder may act as a focus, and this is true of the various forms of the muscular rheumatism. Rosenow has demonstrated many pertinent facts in this connection. Remarkable relief occasionally follows operation for gallstones in obscure types of painful affections of the joints and muscles, which are more or less without physical evidences.

THE RELATION OF ACUTE INFECTIONS OF THE GALLBLADDER TO ACUTE APPENDICITIS

Of extreme importance are the coincident acute infections of the gallbladder and the appendix, as in the following case:

About fifteen years ago a woman, five months pregnant with her fourth child, was brought into the hospital with perforation of the gallbladder and spreading peritonitis, after seventy-two hours of acute illness. I opened the abdomen, and evacuated foul pus of fecal odor, and gallstones in the vicinity of the gallbladder, which had ruptured into the free peritoneal cavity at the necrotic fundus. I rapidly removed the stones and septic material, introduced a drain into the gallbladder at the site of the perforation, and placed considerable iodoform gauze in the infected area. For a few hours the patient was

relieved of symptoms; which shortly returned and continued unabated until death. Postmortem examination revealed coincident perforation of the appendix and progressive peritonitis to be the cause of death. The unfortunate death of this mother and child emphasizes certain pertinent facts: 1. the history of gallstone disease, with numerous attacks; 2. in the final attack the pain was first in the region of the appendix, and 3. the pus coming from the gallbladder was of exactly the type found in abscesses of appendiceal origin. That this patient with a stone-infested gallbladder was overwhelmed with an acute infection from the appendix, which was carried through the liver, and that both gallbladder and appendix had perforated simultaneously, cannot be doubted. In the presence of an acute infection of the gallbladder from colon bacteria, the appendix should be examined. In a number of cases of acute infections of the gallbladder I have coincidentally removed an appendix acutely infected, which would presumably have caused death, had it remained.

THE RELATION OF INFECTIONS OF THE GALLBLADDER TO PANCREATITIS

Our knowledge of pancreatitis is very largely owing to the pioneer work of the late Reginald Fitz, whose discovery of the relation of the appendix to acute infections of the abdomen, and whose investigations of intestinal diverticula as a cause of peritonitis, and of acute pancreatitis as a cause of fat necrosis, give him a permanent place in medical history. The symptoms of acute pancreatitis are classical. The patient, sometimes an elderly, adipose man, has a sudden seizure of extreme pain in the upper abdomen, vomiting, pallor, anxious expression, and shock. Tympanitis promptly develops, and a condition at first appearing to be acute obstruction high in the intestinal tract. Enemas produce evacuations, and gas is expelled without relief. In the milder types of acute pancreatitis, operation discloses a greatly swollen, edematous pancreas, with fat necrosis due to the escape of lipase, a fat ferment which causes saponification of the fat, or a moderate hemorrhagic pancreatitis, caused by the escape of proteid ferments, of which trypsin is the best understood and which affects especially the blood vessels, causing hemorrhages, or both hemorrhages and fat necrosis. In malignant types, death ensues in from twenty-four to

seventy-two hours. Postmortem examination discloses generalized fat necrosis with hemorrhagic infarctions into the pancreas, and often necrosis of the substance of the gland. When our knowledge of pathologic conditions was derived entirely from the postmortem room, it concerned individuals who had died from a certain disease and led to an exaggerated idea of the fatality of that particular disease. For instance, fat necrosis does not necessarily end fatally, and in the so-called hemorrhagic-apoplexy type of acute pancreatitis, a considerable deposit of encapsulated blood in and around the pancreas may be found, which later can be opened and evacuated, with recovery of the patient.

In this connection an experience of long ago illustrates a pertinent fact. A doctor of nearly three-score and ten years, a friend of my father, became violently ill, and was brought to the hospital about two weeks after the initiation of severe, upper abdominal symptoms. This illness had been preceded by several attacks of gallstone colic. Evidence of a localized infection in the region of the gallbladder was marked, and, as soon as the patient had rallied somewhat, an abdominal incision was made. The pancreas was found to be greatly enlarged and soft. The gallbladder was full of stones, and there was extensive fat necrosis with considerable serous, peritoneal exudate. The stones were removed and the gallbladder was drained, and the patient made an unexpectedly good recovery. I have since seen many patients with the subacute type of pancreatitis and fat necrosis, operated on while in the course of recovery, who undoubtedly would have recovered from this particular attack without operation.

In some instances, secondary pyogenic infections cause abscesses, and even necrosis of large areas of the pancreas. A considerable percentage of these patients are successfully operated on, and recover permanently; at least so far as I have observed, they do not show evidence of pancreatic insufficiency later. Pancreatitis is usually associated with cholecystitis and stones; the stones should be removed, and the gallbladder drained.

In the chronic types of pancreatitis the head of the pancreas is usually enlarged and thickened, sometimes feeling like the handle of a pistol, or, the whole pancreas may be involved, feeling like half of an ear of field corn. It has been my experience that patients with chronic pancreatitis

without jaundice recover after the removal of the gallstones and cholecystostomy. At least they have no further symptoms to indicate failure of either the internal or external secretions of the pancreas. In 60 per cent. of subjects, the common duct passes through the head of the pancreas, a condition which makes jaundice probable. In the other 40 per cent., the duct passes behind the pancreas and is not compressed by pancreatitis. If, associated with chronic pancreatitis, there is jaundice and other evidence of obstruction of the biliary tract, the gallbladder should not be removed, as it may be useful later in case cholecystoduodenostomy or cholecystogastrostomy is necessary for permanent biliary drainage. In some cases without jaundice, however, cholecystectomy is necessary to cure relapsing cholecystitis causing recurring exacerbations of a chronic pancreatitis without biliary obstruction. Some years ago a Jewish rabbi came to the Clinic, giving a history of peculiar attacks in the upper abdomen for which cholecystostomy had been performed three times for the relief of subjective symptoms. Since nothing could be found to justify further operation I advised against it, in spite of the insistence of the patient who had come a long distance, hoping to be relieved. He remained in town and at frequent intervals had manifestations of severe pain, cried out, was hysterical, and at night frequently sent for a member of the staff to relieve him. Finally I was induced to perform the fourth operation, and found typical, chronic pancreatitis and an adherent, infected gallbladder. Inasmuch as the patient had never been jaundiced I removed the gallbladder. He recovered perfectly, and every year since has never failed to send me an anniversary letter telling me of his continued good health. Reflection on this case brought out a sequence of events which a more careful history might readily have shown in advance. Each time cholecystostomy was performed the patient was relieved as long as the gallbladder continued to drain to the outside. After one operation he had insisted on keeping the drainage tube in place for two months. The gallbladder contained bacteria which, becoming acclimated to the pancreas, had produced recurrent attacks of pancreatitis.

THE RELATION OF INFECTIONS OF THE GALLBLADDER TO CIRRHOSIS OF THE LIVER

Adami described so-called obstructive biliary

cirrhosis as the result of infections usually originating in infections of the gallbladder. Often there are antecedent stones which have passed from the gallbladder into, and become lodged in the common duct, causing obstruction which led to dilatation of the smaller biliary ducts, and infections extending even into the finest ramifications, which sometimes result ultimately in the formation of pigment stones in the biliary ducts. In biliary cirrhosis there are deposits of connective tissue around the small biliary ducts, eventually causing contraction and interference with bile drainage, which produces chronic jaundice, an enlarged liver, and a train of symptoms that lead to death. The direct relationship of infections of the gallbladder to biliary cirrhosis is easily established. There are two types of cirrhosis of the liver: the biliary, briefly referred to, and the portal, in which the infection is carried to the liver through the portal circulation and deposits connective tissue around the smaller portal vessels, causing interference with hepatic circulation, as shown in the typical portal cirrhosis of Laennec. It should be remembered, however, that the liver in portal cirrhosis is not always atrophic. It may be enlarged, due to the deposits of fat with the connective tissue. Biliary cirrhosis is easily identified by the early persistent jaundice, and portal cirrhosis by early and persistent gastro-intestinal hemorrhages and ascites.

Gallstone disease is the most common cause of biliary cirrhosis, but there is no evidence to show that the gallbladder is a common cause of portal cirrhosis. Not uncommon, however, is a mixed type of cirrhosis in biliary infections, that is, general biliary cirrhosis with localized areas of portal cirrhosis. In biliary cirrhosis, even in late cases, prolonged drainage of bile to the surface by cholecystostomy, and removal of gallstones if they are present, may prove beneficial. I have seen good results following such drainage; at least the patients suffering from obstructive biliary cirrhosis have been able to return to work and have enjoyed fairly good health, although the greater number still have sufficient interference with circulation of bile in the smaller ducts of the liver to cause the continuance of a certain amount of jaundice.

OVARIAN INSUFFICIENCY*

J. H. HUTTON, M. D.

CHICAGO

The remarks embodied in this paper represent such facts as could be gathered from the literature, both clinical and experimental, plus the experience gained in private practice. Consideration will be given only to ovarian insufficiency.

While it seems logical to suppose if there is an insufficiency of the ovarian function there might also exist cases of hyperfunction of the same organ, I am not familiar with such a condition and have found no reliable evidence of its existence in the literature. If it exists, the treatment would presumably be something calculated to diminish the activity of the ovary, such as some surgical procedure, x-ray or radium. At the present time, we have no endocrine therapy for hyper-function of any endocrine gland. There may be antagonists in the body but they are not so strongly antagonistic as to slow up the excessive activity of one another.

No mention will be made of the involvement of other endocrine glands, not because such involvement does not occur quite frequently, but because the length of this paper does not permit it.

THE RELATION OF THE OVARY TO THE OTHER DUCTLESS GLANDS:

Pituitary. The proper development of the ovary seems to depend, to some extent at least, on the functional integrity of the pituitary, especially the anterior lobe.

Thyroid. There is a close relation between the thyroid and the ovary. Exactly what that relation is has long been a matter of dispute. One group of workers holds they are antagonistic in action, the other, that they are synergistic. As is usual in most disputes, probably both are partly wrong. My own feeling is that these glands some times have one action and again the other, and further that this may differ in the same individual at different times, some as yet unknown factor, determining their relation. One of my cases varied from a hypo-thyroid condition to a hyper-thyroid having a basal metabolism rate of plus 30 per cent.

Thymus. This organ normally undergoes involution when puberty occurs. Swale Vincent says that it might be suggested that it furnishes

*Address before Chicago Medical Society, November, 1923.

some internal secretion to the economy before the gonads are functionally able to do so.

Adrenals. Embryologically the ovary and the adrenal cortex are very closely related. After the menopause the cortex hypertrophies. I understand it is the only gland in the body undergoing such a change. After castration the body becomes much more sensitive to adrenin.

Symptoms. The symptoms of this condition appear to be as follows: Abnormal menstrual function, i. e. abnormal as to age of onset, period of occurrence, quantity and quality of the flow and discomfort that accompanies it.

Amenorrhea.

Dysmenorrhea. Headache sometimes migrainous in character, occurring at or near the periods, usually worse just before the flow is established.

Abdominal pain occasionally closely resembling that of appendicitis. Doubtless some of the healthy appendices removed in the past, owed their fate to the fact that the surgeon did not distinguish between appendicitis and ovarian insufficiency. Some patients complain of pain in the right upper quadrant of the abdomen, somewhat resembling that of gall tract disease. However it is not associated with nausea and vomiting and disappears after the administration of ovarian preparations.

Backache, usually lumbar in location and worse previous to the flow.

Nausea and vomiting. Very persistent and resembles somewhat, that of pregnancy.

Hot flashes and nervousness.

Mental depression—a prominent complaint.

Mental and physical sluggishness, especially near the periods.

Somnolence. Some of these patients say they could sleep all the time. A few complain of insomnia.

Numbness and tingling of the extremities occurring most frequently at night. This is a very common complaint of women near the menopause.

Frequent obstinate canker sores worse at the menstrual periods.

Colds and sore throat with every period.

Capricious appetite.

Bad complexion, acne like eruptions about the face.

Lack of strength and endurance.

I believe these are symptoms of ovarian insufficiency for the reason that no other cause could

be found and they were relieved by this treatment.

Diagnosis is based on the history, symptoms, physical findings and exclusion of other conditions.

The history is probably the most important factor in making the diagnosis. It should include a very careful inquiry into the patient's menstrual life, emphasizing such points as the age of puberty, the regularity or irregularity of the flow. Pain or the lack of it, if present its location whether in the head, abdomen, back or legs and the time of its occurrence, whether before, during or after the flow and whether it is relieved or made worse by the appearance of the flow.

The history of operations or infections. Many times patients will date their complaints from an operation. Even though it did not ostensibly involve the ovaries it probably in some way damaged their blood or nerve supply to the extent of causing functional impairment. Infections in or about the pelvis apparently do the same thing. Some general infections seem to exert a selective action on the ovaries. Many patients date their troubles from an attack of the "flu". Other significant points are; late puberty, i. e. 16 to 18 years. Irregularity of the early periods, onset of symptoms following an operation or an infection, and the relief of symptoms coincident with the appearance of the flow. The history should elicit:

The symptoms of the condition.

An etiological factor.

A connection between the periods and the symptoms.

I do not know why the symptoms in one case of ovarian insufficiency should be aggravated and in another case relieved at the periods, but clinically that seems to be true, as in both cases the symptoms can be removed or relieved by ovarian therapy.

The physical findings are largely of a negative character. Engelbach has shown us pictures of patients suffering from this condition but where this is responsible for any change in the physical make up, the insufficiency has begun before puberty when its influence could be shown on the development of the bony frame work of the body. Most of my patients have had a milder form of the trouble which began later in life after the skeletal development was complete. The trochanter obesity has occasionally been present

but oftener it has not. Laboratory work is also largely negative. We have no instruments of precision for measuring the ovarian function.

It is understood that a differential diagnosis is made before any treatment is undertaken. One would hardly expect to relieve a dysmenorrhea due to some malformation or malposition of the uterus by giving the patient ovarian preparations. Nor would he expect to relieve a neurosis or psychosis unless it had ovarian insufficiency as the etiological factor. Ovarian medication, like all other forms of endocrine therapy, is specific medication.

Various theories have been proposed as to the function of different parts of the ovary. It is claimed, for example, that the corpus luteum and the interstitial portion of the gland have opposing actions. There is very little reliable evidence to support such a theory. Different laboratory workers claim to have isolated the ovarian hormone from different parts of the gland. Recently Allen and Doisy claim to have isolated this hormone from the liquor folliculi and from no other portion; but Frank says it was long ago found not only there but also in the corpus luteum and probably in the placenta. Until the laboratory workers agree a little better I shall continue to use ovarian residue for the reason that I believe it represents essentially ovarian substance as I do not believe all of the lutein tissue can be removed, and economically it is much better from the patient's point of view.

Ovarian Preparations. Ovarian preparations on the market are as follows:

Ovarian substance. Whole organ desiccated or liquid extract put up in ampoules. Each ampoule contains the extract of a certain weight of the desiccated gland.

Corpora lutea. As the name implies, corpora lutea either desiccated or in ampoules.

Ovarian residue. The remainder of the gland after the corpora lutea have been removed.

There may be antagonistic parts of the gland, I do not know. At the present time there is little evidence in the literature that any one else knows. One foreign house, according to its detail men, claims to have isolated two active principles from the ovary. These are antagonistic in action. One is alleged to cure symptoms due to insufficient menstruation, what ever they may be, while the other is reputed to reduce an excessive flow to a normal menstrual period. So

far as I have been able to learn this is 100 per cent. bunk. I know of no American house that has made such extravagant claims.

Treatment. I most frequently use ovarian residue. It is given by mouth, sub-cutaneously, or intravenously. The dosage by mouth varies from 5 to 60 grains tid. Subcutaneously the dosage has ranged from 1 to 2 ampoules, each ampoule representing 2 decigrams of the desiccated gland. This is given once a week or oftener as needed. Intravenously I have given as much as 10cc daily for periods of more than a week. I have given 5cc intravenously at weekly intervals for periods of months and have never personally noted any reaction except a feeling of fullness about the head, a flushing of the face and occasionally a slight transient headache.

Ovarian transplants, while of great scientific interest, have not yet been of great practical importance. That is, ovarian preparations given by mouth or otherwise seem capable of relieving all the symptoms for which the transplants would be done. The grafts themselves are prone to cause trouble in the shape of painful swellings. It is said that the transplant, in order to relieve any symptoms, must be as large as a pea and that the cortical zone of the ovary is the portion most frequently successful in a graft.

One of the most frequent examples of ovarian therapy is the treatment of nausea and vomiting of pregnancy by corpus luteum preparations. Perhaps the oldest form of therapy is the treatment of the symptoms of the menopause by ovarian substance.

There are grounds for believing that ovarian therapy may have some value in the treatment of sterility. A number of instances are reported where the woman having had no periods began to have them regularly after the exhibition of ovarian therapy and a short time later became pregnant. One of my cases had always been somewhat irregular but after an attack of the "flu" became much more so. After about two months of treatment the periods became regular and she became pregnant. This terminated in abruptio placenta at full term. She had been married four years and had never previously been pregnant although she had desired children.

I have noted one curious circumstance in connection with the treatment of this condition, namely, when a woman first comes under treatment her symptoms respond quite readily to this

therapy. If she discontinues treatment and the symptoms return they are much harder to relieve the second time, requiring larger doses at more frequent intervals. While if this relapse is repeated they are much harder to relieve the third time than they were the second. The body seems to acquire a sort of tolerance for this kind of medication.

Economic importance. Dysmenorrhea is sufficiently disabling to cause considerable economic loss and a plan has been discussed for the establishment of clinics for the treatment of this condition. The recognition and treatment of ovarian insufficiency constitutes preventive medicine as it is undoubtedly responsible for a considerable percentage of the dysmenorrheas and other disabling complaints accompanying the menstrual periods.

Cases. M. F. O. complained of abdominal pain, nausea, vomiting and headache with every period. She was very sluggish mentally at that time although she did not mention that as one of her complaints. The periods began at 17 years. For a time she had two periods each year, she now has four to six each year.

Her past history was negative except for pneumonia and "flu" since which time her complaints have been much worse.

The physical examination showed that she was 5 ft. 6 in. tall and was very thin, weighing 98 pounds. Her arms and legs were long and her hands were narrow with long tapering fingers. There was no trochanter obesity present. The physical and laboratory examinations were otherwise negative.

The diagnosis of ovarian insufficiency was based on the history of a late puberty, irregularity of the early periods with long intervals, the occurrence of some symptoms and the aggravation of all others at the periods, the physical make up and the exclusion of other conditions. She began treatment August 14, 1921. Gained 11 pounds the first month and 25 pounds the first year. There was a corresponding amount of improvement in her mental and physical behavior.

The periods became regular by December, 1921, without pain although the nausea and vomiting continued. After an attack of "flu" in February, 1922, her periods became somewhat painful but never to the extent of the pain she experienced before beginning treatment. The treatment in this case was entirely by mouth.

Mrs. O. H. had a number of complaints which I believed to be due to hypo-pituitarism involving the anterior lobe. She was referred to Drs. Engelbach and Tierney. A copy of the history as taken by them and their conclusion as to the diagnosis and the best line of treatment follows:

I. Present A. Chief Complaints:

1. Spells of tachycardia with fainting sensations associated with nausea, no vomiting;

also with a feeling of numbness in hands and feet, no paresthesias.

2. Vertigo on sudden change of position.
3. Fatigability with general weakness, nervousness and feeling of exhaustion on arising.
4. Loss of weight, ten pounds in two months.
5. Dyspnea with moderate tachycardia on exertion.
6. Tendency to constipation.
7. Menstrual history: Onset of periods at eighteen, regular, twenty-eight days, moderate flow, three days, moderately severe pain on first day, no relief necessary. Partial hysterectomy done four years ago. Amenorrhea for three months, then periods returned and have been regular since although the amount is less, duration same.

B. Duration—Five months.

- C. Course: Onset sudden, the first attack coming on in the forenoon not associated with exertion. Tachycardia was present with a feeling of faintness, general weakness and nervousness. The attack lasted six hours. Following this she had four attacks at intervals of two days.

Progress: The attacks assumed such severity that patient went to bed and remained in bed for seven weeks, the spells often occurring daily and sometimes once a week in that time. Following this patient was free from spells for two weeks. They returned, however, and have been present since that time occurring at irregular intervals. The tachycardia comes on suddenly, lasting from two to three hours. The longest attack lasted nine hours. No known causal element associated at this time. The attacks do not follow exertion particularly, occurring spontaneously, day or night. There is a feeling of exhaustion following an attack, for two or three hours. Between spells weakness, nervousness, and fatigability persist. Patient has had as many as three spells in twenty-four hours. The longest interval has been three weeks. Associated with the spells there is a feeling of numbness in the hands and feet which persist for some time after the tachycardia has disappeared. There has been a loss of weight, ten pounds in the past two months, and the patient has noticed a slight dyspnea with moderate tachycardia coming on with exertion, not associated with the chief attacks. No history of edema, vertigo, scotomata or tinnitus aurium.

- II. Past. General health and development good until about ten years ago. Always smaller in stature than children same age. Apparently no delay in eruption of teeth. No evidence of mental retardation at any time. Measles, mumps, whooping cough. Jaundice at eight years lasting a month. Patient is not certain of associated symptomatology as tem-

perature, pain, etc. No return of jaundice. Suspect pulmonary tuberculosis five years ago. Was on tuberculin treatment and condition cleared up. Signs of hyperthyroidism developed about two years ago which seemed to abate under general treatment. Operations, appendectomy with hysterectomy four years ago; tonsillectomy done to relieve vague joint and back pains about two years ago. No injuries.

- III. Personal. Sleeps fairly well, not well rested on arising. Appetite poor. No digestive disturbances associated except presence of occasional eructations and tasting of food eaten previously. Constant nausea, which was present before onset of spells, exists at present in very mild degree, not associated with vomiting. Marital history—no pregnancies.
- IV. Family. Father died at 68, cardiac condition. Mother living at 72, senility. One brother well. Four sisters well. Family has tendency to small stature, although father was six feet tall. Mother very small. Brother and one sister at this time show tendency to posterior pituitary involvement. Sisters have complained of moderately severe pain at periods and two have always had profuse periods amounting at times to metrorrhagia.

Conclusion. "As you will see from our records, our conclusion is one of hypopituitarism effecting the anterior lobe with no evidence of posterior involvement. Clinically there is a very mild suggestion of secondary hypothyroidism, which is, as you know, not clarified by either your, or our, determination of the basal metabolic rate.

As regards the possibility of an old tuberculosis, we feel certain there is no evidence that we can determine of any activity at this time. As regards the paroxysmal tachycardia, which is a source of considerable anxiety to the patient, we were unable to demonstrate any evidence of organic heart disease. The physical findings, functional tests, teleoroentgenogram and electrocardiogram all being negative, we are inclined to assume that the tachycardia may be associated with her endocrine insufficiency.

The treatment we would recommend is as follows:

1. Systematized rest.
2. Forced feeding, particularly of large amounts of assimilable fats, such as cream and butter.
3. Anterior lobe therapy;
 - a. Anterior lobe, pituitary substance, gr. v. (P. D. & Co.) three times a day, after meals.
 - b. Antuitrin (P. D. & Co.) hypodermically, one or two ampoules daily for a time, later on decreasing the frequency of injections.

Later on, if the response to anterior lobe therapy is not deemed sufficient, it might be advisable to try very small doses of thyroid, increasing the doses gradually, even in spite of the normal basal metabolic rate. We would be inclined to give anterior lobe treatment alone

a very fair trial before instituting other endocrine treatment.

As regards the colonic condition, there seems to be a slight spasticity of the colon, for which we would advise the use of tincture belladonna and oil enemata, as follows:

4. Tincture belladonna (30) oz. 1,

Sig;—twenty drops in four ounces of cotton seed oil to be used as an enema at bedtime, to be retained over night. If patient is unable to retain full amount of enema, reduce the oil, but not the belladonna."

The physical examination showed height 4 ft. 9½ in., weight 98 pounds, otherwise negative.

The laboratory work showed a normal blood urine, and kidney function. Negative Wassermann. The x-ray findings were negative. Blood chemistry and sugar tolerance normal. Basal metabolism normal.

Anterior lobe therapy was used in the form of five grains of the dried gland by mouth and 1 ampoule of antuitrin intravenously every third day. This medication was not followed by any change in the symptoms. Because of the history of late puberty and hysterectomy a few years before, she was given ovarian residue hypodermically with very prompt results. The entire train of symptoms was relieved within a week. At first one ampoule was given daily, later every second day and finally once a week. We have made the injections as long as three weeks apart but invariably the symptoms tend to recur after which the injections are made daily or every second day until the symptoms are again relieved. After they are again controlled the injections are given at intervals of about a week. This process has been repeated so often and always with the same results so that we feel here is no longer any question as to the efficacy of ovarian therapy in this case.

A number of cases in my series have duplicated the conditions of this patient. I am much inclined to the belief that pain in the lower right quadrant of which Engelbach speaks as a symptom of pituitary disease is more likely due to ovarian insufficiency, although this latter condition may be secondary to and due to hypopituitarism of the anterior lobe.

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PERSONAL EXPERIENCES IN BRONCHOSCOPY AND ESOPHAGOSCOPY, DURING THE PAST YEAR*

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CHICAGO

Foreign bodies in food and air passages present some problems in diagnosis, and some in operative removal. There may be mortality, but nature cures some of the cases as shown by the following reports.

CHILDREN'S MEMORIAL HOSPITAL

Case 1. L. A., aged 3 years. Service of Dr. Williams. Two days previous to admission child swallowed a nickel, which did not pass in the stools. No vomiting, but on date of admission complained of choking, and difficulty in swallowing even water. Had had castor oil with free catharsis. X-ray shows nickel in esophagus at the level of the sterno-clavicular notch.

Operation: Coin removed with esophagoscope and long tube forceps. No anesthetic. Time, one minute. Patient discharged next day. No complications.

Case 2. B. R., aged 4 years; white male. Admitted July 14, 1922, to my service following accidental swallowing of coin (twenty-five cent piece) seven days previously. During the week vomiting and severe pain persisted. Only watered and finely divided food could be swallowed.

Operation: Upper esophagoscopy. Coin was tightly wedged and removed with difficulty. A channel of ulceration present in both sides of esophagus. Time, two minutes. Recovery uneventful.

Case 3. K. B., white male; aged 2 years. Admitted to my service Dec. 13, 1922, with the following history. Monday, Dec. 11, 1922, while child was sucking on chicken bone, had sudden attack of crying and catching at the throat as if he had swallowed something. Since above attack child has taken food and water with difficulty. Instead of swallowing, food and water have been retained in mouth.

X-rays reveals in antero-posterior and lateral position a shadow about level of lower cervical and upper thoracic vertebrae. Diagnosis—foreign body in esophagus.

Dec. 14, 1922 I removed a piece of chicken scapula. Slight ulceration and membrane on upper portion of

esophagus. Medication; sub-nitrate of bismuth for three days. Time, two minutes. Recovery uneventful.

Case 4. W. M., white female; aged 10 years. Oct. 15, 1922, while eating a piece of chicken swallowed some containing a small bone. Pain deep in throat present at once aggravated by swallowing. Hoarseness intervened; difficulty in talking due to pain. Liquids could be swallowed. Vomited and expectorated a little blood after attempting to swallow some bread. Was brought into the dispensary, and a hard rubber catheter passed in an attempt to dislodge the bone. She thought that it had passed. Next morning swelling and marked tenderness of neck noted. Could not even swallow water.

Physical Examination: A large, healthy-looking girl of ten complaining only of soreness about the neck. Eyes, ears, nose and throat negative except posterior pharyngeal wall congested.

X-ray negative for bone.

Left side of neck from mandible to level of cricoid is moderately swollen and on deep pressure there is tenderness. Swallows with difficulty.

Two days later temp. 102°; holds head toward the left side. Dr. David Fiske noted posterior pharyngeal wall congested and swollen. Oct. 19, 1922, x-ray does not show foreign body, but a rarefaction of tissue about upper one-third of esophagus, and an elongated dense streak about one inch long just below rarefaction.

Oct. 18, 1922, stool received—positive for blood. Dr. Hibbs.

Oct. 20, 1922, I examined child. Lateral pharyngeal bands were swollen, and lower pharynx covered with a foul-smelling fibrous exudate.

Operation: Light ether anesthesia—Miss Fox. A portion of chicken rib about two inches long removed by direct vision. The esophagus was covered with a foul-smelling exudate. Child died four days later. Death due to deep cervical abscess which had ulcerated into the air passages, causing marked emphysema of neck. This case illustrates that attempted blind forcing of foreign bodies down the esophagus into the stomach is not without danger.

Case 5. L. P. White, male, aged 7 years, first came under the care of Dr. Butler at the Hull House with the history of having strangled while eating watermelon. A few days afterwards cough developed. Was admitted to the Children's Memorial Hospital. Service of Dr. Chas. Schott, Oct. 25, 1922.

Diagnosis was in doubt, but with the physical findings, the leaning was toward asthmatic bronchitis.

Oct. 30, 1922. During the night patient coughed up something hard and the attendant "very carefully" threw it away; so we never knew whether it was a seed or not. I saw the child in the morning and chest was clear, no rales, and cough gone. This case is brought in to point the lesson that with a history of strangling, and chest findings present, we ought to think of foreign body, also that cough very often throws out offending invader.

Case 6. T. C., white male child aged 2 years. Admitted to my service Presbyterian Hospital, Dec. 27,

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1921, with the following history: Dec. 26, 1922, while eating peanuts he had a violent attack of coughing which lasted for several minutes. The mother suspected that he had inspired something, and called her physician, who found some rales in right upper chest posteriorly. Dr. Duane of Peoria referred him to me.

Operation, Dec. 27, 1922. Upper bronchoscopy without anesthesia—one-half kernel of peanut removed from right bronchus. Aspiration revealed no small pieces of nut. Patient had inspiratory crow. The next day, Dec. 29, direct laryngeal examination revealed a fibrinous exudate sub-glottically. Did not look like diphtheria, culture negative.

Temperature on admission was 100.2°; ten hours later 102.2°; next day was down to normal; Dec. 30 104.6° but it returned to normal in two days. Recovery uneventful.

Case 7. P. W. Female white child, aged 17 months. Admitted to my service Presbyterian Hospital, with following history: Six months previous to admission the child was found cyanotic, choking, and bleeding from the mouth. Difficult breathing for three hours, and then symptoms subsided. On three occasions during next three months child was nauseated and vomited. Occasionally child would cough up mucous.

X-ray findings—Dr. C. B. Rose—Large nail present in the right bronchus, head down, lying at the level of the 6th dorsal vertebra. Both lung fields are clear.

Operation: April 4, 1922—nail removed with aid of flouroscope, assisted by Drs. Malan and Rose. Recovery uneventful.

Case 8. Sister G. White, female, aged 35 years. Referred by Dr. Harry Boyd-Snee, South Bend, Indiana. Admission to Presbyterian Hospital, May 15, 1922, with history of having inhaled blue glass-headed shawl pin four days previously. Two days later slight cough and irritation.

Operation: Pin 1½ in. long removed from right bronchus. Assisted by Dr. Malan, and Mr. Straight. Next day patient complained only of a slight trauma of tongue. Recovery uneventful.

Case 9. W. J. White, male child, aged 11 years. Referred by Dr. Joseph C. Beck, and Dr. Richard Tivnen. History: July 8, 1922, patient was building a wire fence using staples, which he held in his mouth. One of these slipped down his throat. July 9, 1922, x-ray revealed staple partly in right bronchus with points upward. This was my first staple case, and instruments at hand were not suitable for removal. Bronchoscope was passed with only larynx cocaineized, and he broke loose from the assistants. During this upset staple was pushed forcibly into left bronchus. He was then etherized and staple could be seen wedged into left bronchus. Tracheotomy was performed before awakened from anesthetic. Subsequent attempts at removal were unsuccessful.

Case 10. K. L. White male child, aged 3. Admitted to Presbyterian Hospital July 22, 1922. One week previously while playing on the floor the child placed a wood screw in his mouth. During a slight coughing fit the screw disappeared. Flouroscopic examination revealed the screw in right bronchus. X-ray

report by Dr. C. B. Rose—screw in right bronchus. Ball-valve emphysema and flattening of the diaphragm on the right side. Temperature on admission 102.4°.

Operation: Assisted by Drs. Malan and Rose—screw was removed flouroscopically. The next day



Case X. Wood Screw in Right Main Bronchus. Removed by Upper Bronchoscopy.

many loose rales over lower right chest posteriorly. This finally cleared up and patient was discharged.

Case 11. S. L. White, male, aged 2½ years. Entered Presbyterian Hospital July 26, 1922. Referred by Dr. Haas, Peoria, Ill. History: Two weeks previously an aunt of patient left a room where he was playing and eating peanuts. She had closed the door and he came to open the door, and started to cry and cough. Cough persisted and family physician went over chest finding numerous moist rales over right bronchus and middle lobe.

Operation same day—upper bronchoscopy—several small pieces removed with forceps and ten small pieces and mucous removed by suction. Recovery uneventful.

Case 12. F. A. White female, aged 8 years. Re-



Case XII. Staple in the Left Bronchus.

ferred by Dr. Grove, Milwaukee. Came into hospital Sept. 9, 1922. History: Friday, Sept. 8, 1922, in the

afternoon while playing in the garage found a wire staple, which she placed in her mouth. After choking spell she became hoarse and was unable to speak. Speech came back. She was taken to Milwaukee and Dr. Grove attempted to remove it under general anesthesia. The doctor was not feeling well, and decided to send her down to me. She came in during the evening and I operated next morning. Having failed on a previous case of this kind I was better prepared.

Operation Sept. 10, 1922. Upper bronchoscopy grasped ring with special forceps and pushing staple down so points were in a secondary bronchus, I turned it and extracted with points following. Half an hour afterwards there was difficulty in breathing with emphysema of neck and face. Dr. Malan did a low tracheotomy with local anesthesia. This relieved the dyspnea and cyanosis. She was discharged Sept. 29, 1922, in fine shape.

Case 13. M. E. J., white female, aged 4 years. Referred by Dr. J. Schlosser, Elkhart, Indiana. Oct. 28, 1922, while playing with a brass token, patient swallowed it. At first child could swallow liquid, but after a few days could not, and complained of pain under sternum. X-ray showed the object in upper esophagus. Nov. 5, 1922, at Presbyterian Hospital, assisted by Dr. De La Garza I removed token. No anesthetic.

Case 14. C. L. R. Aged 64. Referred by Dr. Haas, Peoria, Ill. Came into hospital with following history. About one week previously had sensation of pain in upper esophagus while eating dinner. As he had squab, it was decided that a small bone was sticking in the esophagus. Family physician attempted to dislodge it with a bristle probang. Finally he pushed a gauze sponge down the esophagus by means of a long artery forceps. Patient unable to take solid food because of pain on attempting to swallow. X-ray report—No positive evidence of foreign body is discernible on antero-posterior and lateral views of the esophageal region.—Dr. C. B. Rose. Operation, Nov. 13, 1922. No anesthetic. With a long direct laryngeal spatula and tube forceps, I removed a piece of pigeon rib about two inches long. He was so delighted that he was sure there was some more bone present, but none was seen. Recovery uneventful.

Case 15. S. R. White male, aged 2 years. Referred by Dr. —, Mishawaka, Ind. Entered Presbyterian Hospital, Sept. 9, 1922, with following history: Sept. 4, 1922, patient was playing with an ear of corn, and evidently got a kernel into the air passages. There was some uncertainty as to the diagnosis, several theories being advanced for spasmodic croup attacks. It was finally decided to send him into the hospital. Sept. 9, 1922, 9 a. m. assisted by Dr. De La Garza, I removed a kernel of white dent corn from left bronchus. About three in the afternoon on account of cyanosis Dr. Malan intubated boy. He was fine until Sept. 20, 1922, when the house surgeon, Dr. Linden did a tracheotomy. A mistake was made in that a high insertion of the tube was done, and were never able to move the tube. Oct. 6, 1922, I did a low tracheotomy and inserted the tube. He

wore this until May 1, 1923. Tube removed and breathing unobstructed. This case points to the lesson to avoid high insertion of tracheotomy tube.

Case 16. A. L. Age 2 years, patient, Dr. Meany, St. Bernard's Hospital. About two weeks previously patient had swallowed a copper penny. X-ray showed it in upper part of esophagus. Family physician said that it would pass through. This did not happen so patient was brought into hospital. I removed it without anesthesia. Recovery uneventful.

Case 17. Greek male, aged 7. Referred by Dr. Chas. Hercules at St. Margaret's Hospital, Chicago Heights, Ill., Nov. 25, 1922. Crowd of boys engaged in "Horse Play" were throwing cockle burrs at each other. One of the lads threw a single burr in his face, and it was aspirated into the larynx. Final resting position was in the anterior commissure resting on the vocal cords. Boy was moderately dyspneic, hoarse, and had marked pain on swallowing. November 28, 1922. Direct laryngoscopy, assisted by Drs. Leslie and Hercules, gave a good view of burr, and it was removed readily. Recovery was uneventful.

Case 18. Italian, male, aged 14 months. Referred by Dr. Walward at St. Francis Hospital, Blue Island, Ill. Child playing on flour with open safety pin, which mother on being unable to find, suspected baby had swallowed. Dr. Huntington was able to confirm this by fluoroscopic examination. Pin was just through the introitus esophagi, and presented very little difficulty in removal. Drs. Walward and Huntington were good enough to assist. Recovery uneventful.

Case 19. Young lady, aged 27, came into the practice of Dr. E. B. Anderson on account of great loss of blood passed per rectum. She had been visiting friends in Milwaukee, Wis. At luncheon on the train a piece of chicken bone became lodged in her throat. Distress referred to the larynx. After arrival in Chicago she visited a physician who said that he could dislodge bone. He proceeded with gauze held in long artery forceps, to push this down the esophagus. There was a good deal of pain from this procedure and some bleeding. She went home and during next few days vomited blood, and passed a great deal in the feces. Hemoglobin down to 60°. About one week after accident Dr. Anderson was called to see her, and he had Dr. Boettcher in consultation.

They decided to enter her into the Englewood Hospital for x-ray and observation. X-ray report negative as to bone, even though there was a slight shadow at about the level of cricoid.

It was decided to get a view of the upper part of the esophagus, and we proceeded to operation. On account of the great tenderness of the neck ether anesthetic was used. Passage of short esophagoscope brought a piece of chicken rib into view. This was extracted and proved to have a piece of chicken sternum attached to it. Further search revealed two puncture wounds of the mucous membrane with clots and a little oozing from margin of one. We cleaned out the clots and applied AgNO₃ 20 per cent to edges. Drs. Boettcher and Anderson were of great help in

this case with their judgment as to the after care. Recovery was rapid and complete.

Case 20. M. L. L., white male; aged 63 years, patient of Dr. Parks at the Streeter Hospital, Chicago. Was enjoying a dinner of spare ribs and sauer kraut, and to his surprise he found that swallowing was impossible. X-ray revealed a tangled mass behind the larynx. Dr. Alfred Loewy in consultation, and they decided to give me a chance at clearing the passage. Ether had to be used, and it was almost impossible to get him asleep. Assisted by Drs. Parks and Loewy, I extracted a large amount of decomposed meat with some cartilage attached. Next day because he complained of some difficulty still in swallowing, we made another attempt. This time we found esophagus clear. Morning of the fourth day after the accident he had a slight delirium and passed away in the afternoon. Investigation discovered that he had been a drinking man, and I imagine that he passed away on account of this.

Case 21. N. H. White, female, aged 33. Patient of Dr. Harry L. Pollock, North Chicago Hospital. U. S. Army Nurse. Because of frequent sore throat had tonsils removed June 30, 1921, under general anesthesia. Upper left bicuspid tooth was a "pet peg" tooth and she warned the anesthetist to be careful of it. As soon as she awoke from ether, she discovered that her tooth was missing. It could not be found in operating room. She was dismissed from hospital in three days. She had a slight pain in the chest at this time. In a short time she developed an irritating painful cough. In about two months, went on duty, but cough and bronchial rales persisted. Sept. 7, 1921, developed pneumonia, and had a long convalescence. After a time x-ray revealed tooth in left bronchus behind fourth rib at bottom of an abscess cavity about two inches in diameter. Dec. 15, 1921, under an unsuccessful synergistic anesthesia I did an upper bronchoscopy with some difficulty. Left main bronchus was constricted to a very small size so that tube could not enter. With forceps this was dilated and pus was aspirated. My forceps would slip off tooth, but I finally brought out a small piece. I decided to stop, and let patient rest for a few days. Dec. 16, 1921, during a very severe coughing spell, the tooth was expelled.

This case presented some features of interest. The loss of tooth during operation, and nobody thinking that it might be in the air passages. Its discovery after five months by x-ray. Its coming out in the coughed up material after dilation of the stricture. Lastly, her speedy uneventful recovery afterwards.

Case 22. L. E. L. White, male, aged 3. Referred by Dr. Frank Lederer of North Chicago Hospital. Feb. 16, 1923, child entered hospital with pain in the neck, and mother thought he had swallowed brass upholstery's tack. X-ray shows foreign body in the upper esophagus. I exposed foreign body with esophagoscope, but in demonstrating it to the class, it became loosened and started down the esophagus. Two days later it passed in stool.

Case 23. U. M., male child, aged 3 years. Referred

by Drs. Boettcher and Anderson. Child playing with some overcoat buttons, was taken with a choking spell, and mother discovered one button was missing. She was unable to swallow even liquid. X-ray at Presbyterian Hospital did not show object. Button was removed under direct vision with special forceps. Recovery rapid.

The next case shows some of the luck in this work as to the results and financial rewards.

Case 24. During the annual dinner of the Chicago Alumni of the University of Michigan, one of the members choked on a piece of "filet mignon" and was in great distress. He could not even swallow saliva, and he must have secreted two quarts in the short time in getting to the hospital. Operation: Large piece of meat removed under direct vision. Recovery rapid.

The unfortunate one was a physician, and at this same dinner were bank presidents and others of large means.

Case 25. B. B., white, male child aged 14 months from Fort Wayne, Indiana. About one week before coming into the Presbyterian Hospital, he had swallowed a large pearl button. Swallowing of food became almost impossible, and youngster had a good deal of pain. There was some debate as to procedure.



Case XXI. Large Button in Esophagus.

Family physician advised trip to Philadelphia, but father thought that he would take his chance in Chicago first. I removed button under direct vision in less than one minute. There were two deep ulcerated areas where the button pressed on the sides of the esophagus. Recovery complete.

Case 26. The last case is one of great tragedy and illustrates the responsibility of all of us as physicians. Baby F. white, male, aged 8 months in perfect health and a rare specimen of baby. He was playing with a new tin funnel, and was able to pry loose the wire ring used for hanging it up, when not in use. Accident happened Dec. 8, 1922. Mother called up the family physician who advised waiting until the next morning. Parents followed his advice, and next day, Dec. 9, baby was taken to the hospital and two

competent oto-laryngologists were called in consultation. It was decided to operate under a general anesthesia. At the time of operation, ring was in the upper part of the esophagus. After working an hour or so without success, the effort was given up. Dec. 10, baby's temperature was 103 to 104°, and pneumonia



Case XXVI. Large Defect in Esophagus Due to Trauma and Subsequent Infection.

was suspected. I was in consultation in the evening of Dec. 10 and decided to operate next morning. Dec. 11 the fluoroscope revealed ring about three or four inches below sterno-clavicular notch.

Under direct vision, no anesthetic, upper esophagus covered with a dirty foul smelling fibinous exudate. I had a little difficulty in rotating ring, but extracted it in a rather short time. Baby had a stormy time, and in a few days regurgitated food, and temperature remained high. Bismuth milk revealed a large tear in the left side of the esophagus. Gastroscopy was done to help nourish child and put the esophagus at rest, but all was to no avail. For the child died in about one week.

This presents an economical problem, for a strong healthy youngster was lost and its parents put to a heavy financial handicap, due to a faulty construction of a tin funnel. The operative removal by one experienced in this work would have been relatively simple.

It is illustrative of the wisdom of Dr. Joseph C. Beck, who called me up after the death of the late Dr. S. A. Friedberg, and said to me "What about Bronchoscopy?" Under his encouragement, and with the help of all of those who have been so generous as to refer their cases, I have tried to develop a technique that will reduce mortality to a minimum. This is a very special kind of work, and while spectacular, is not very remunerative, and carries large responsibilities.

I have had some other cases that have cured themselves, either by swallowing the objects, or by coughing them up, but enough for the present.

DISCUSSION

DR. CHARLES D. THOMAS, Peoria, Illinois: In his paper Dr. McGinnis emphasized the point of avoiding delay in our cases, and I think if all could be impressed with the importance of either attending to the cases early, or referring them to someone in the near neighborhood, as Dr. McGinnis would be for many of us, it would be of great advantage. In Peoria we have no one especially doing this work, although we have quite a number of cases referred there. While in Boston I worked for a while with Mosher, got an elaborate set of instruments and tried to develop some technic but these cases come so infrequently that a capable technic is very difficult to acquire.

Just to show you how deferring a case makes trouble and the result much more doubtful I will instance two cases. I notice that the bottle of foreign bodies sent around by Dr. McGinnis has a staple in it. In a case referred to me from Pekin, Illinois, the child had insufflated a staple just about like that one. An attempt was made to locate it by the local physician but within a few hours the child was sent up to us, where it was anesthetized sufficiently to keep it from fighting, and fortunately, because very little trauma had been produced in the larynx, trachea and bronchus we were able to get a good view of it. It was not surrounded and held fast by edema so was easily extracted.

Another to show the trouble caused when a case is deferred. A little child had been out with the mother feeding the chickens. The child had a hand full of corn and put some into its mouth; all of a sudden it stumbled and seemed to inspire a number of grains of corn down to the bifurcation of the bronchi. It was seven days before that patient was sent in. The attending physician said that in other cases he had had the child usually coughed up or got rid of these foreign substances and he thought Nature would take care of them. The symptoms grew worse and worse until the child was cyanotic. Dr. Spurch, Dr. Williams and I made our best efforts to extract the grains of corn. By that time the corn was macerated and when we grasped it with the forceps we could pull up just a little piece of a grain at a time and then we must wipe and clear away the mucous before we could get another piece. Thus much valuable time is consumed and lost. After getting out what we thought was a couple of grains of the corn we thought we had the case quite well cleared up and the immediate condition of the patient surely seemed to indicate this. The patient improved and in about seven days time we allowed the child to be taken home. She went along for one day after reaching home without any untoward symptoms of any kind, but during the second night, very suddenly, a dyspnea came on, a fit of coughing with immediate prostration and before the local doctor arrived the child was dead. We hardly knew what was the cause of death. An internist who was asso-

ciated with us on the case said he thought it was a thrombus but no autopsy was secured.

DR. WILLIAM A. MANN, Chicago, Illinois: The Doctor has given us a little bit different paper from that usually offered in that he has reported his fatal cases. Most of the men like to report only their successes, but he has reported both. His object in doing this is to see that the general practitioner sends his patients to someone who is capable of taking care of them. One case I saw many years ago, before the x-ray was discovered was that of a child who when eating a peanut choked and strangled and the parents were afraid that a piece of the nut had been swallowed. We had no way to determine definitely at that time. I gave the child stimulating expectorant medicine, thinking that relaxation of the mucous membrane would prevent its irritation and might help the child to cough it up. After a few weeks I gave the child belladonna and then it coughed up the piece of nut. In another case where the child swallowed a watermelon seed death ensued, but that was forty years ago, before the days of bronchoscopy.

NEGATIVE PRESSURE IN THE TREATMENT OF THE DISEASES OF THE NOSE AND THE ACCESSORY SINUSES*

G. C. OTRICH, M. D.

BELLEVILLE, ILL.

When our illustrious Secretary invited me to contribute something for the good of the cause, the first thing that flashed into my mind was, to tell my colleagues, the thing that has proven after years of trial to be the most worthy to those who suffer.

Now I am like most of you when you prepare a paper. You want to know what the other fellow has said about your subject. So I began to comb my magazines and text-books, and Ye Gods, what I had to side step on the subject of Surgery pertaining to the nose and throat. It seems the concensus of opinion is, if anything does not function properly in that area, cut it out. It is no wonder that some of our young colleagues are inclined to be rather radical.

I wonder if any one of you ever thought that the function of a part or an organ could be restored by destroying it, either by surgical measures, or the application of irritating drugs. I was taught to try and preserve the function of a part to the uttermost before destroying it.

Do you appreciate the fact that if you were to question all the men who have lost a leg or an

arm, that you would find the greatest percent. of them think that it was done hastily, and that something might have been done to avoid the sacrifice.

Do not think for one moment that I am a surgical agnostic, for I have about as many cripples in my district as the rest of you, and my results are about the same.

Before taking into consideration the diseases of the sinuses, I wish to call your attention to the histological function of the delicate membrane lining the nose and sinuses, which is making the most gallant fight to render service, in spite of the outrages imposed upon it, by man trying to live in a contaminated atmosphere.

In acute stages of infection of the nose, nature reacts the same as in any other part of the body. She rushes an increased supply of blood to that point with the resultant hyper-congestion, and as the area is limited, the ostia of the various sinuses become partially or completely blocked. And with the blocking of the ostium, the blood supply to the lining membrane of the sinuses is blocked off, because the blood supply to the lining of the sinuses enters and returns through the ostium. Therefore any interference with the circulation surely lowers the resistance of that cell.

We know that the air in the cells is always contaminated, and it is very easy for these to become an incubator, hence the beginning of the pathological changes which take place. To cover this subject as it should be, is impossible. I can only give an outline: congestion, beginning destruction and disappearance of the ciliated cells, the appearance of the pavement epithelium, and the growth of fibrous tissue choking off and obliterating the arterioles and veinlets.

Before giving the why and wherefore for the suction method of treatment, I wish to mention several suction apparatus or methods to be used, the ultimate results being the same: Lori suction tips (suction and irrigation): Smith's sinus syringe; and Coffin's apparatus.

If I correctly interpret the authors of articles which have been written on this subject, they seem to think that there must be a medication in conjunction with the negative pressure, but my best results have been with the negative pressure only and a careful toilet of the nose.

The first thing to be considered, is the general physical condition of the patient; that is, his resistance to infection. Bear in mind the exist-

*Read at the 73rd annual meeting of the Illinois State Medical Society, at Decatur, May 16, 1923.

ing pathological condition. The blocking of the ostium, the decreased blood supply to the membrane, upon which, wholly depends the resistance of the part. Remember that no man ever cures anything—only assists Nature. If we can re-establish the circulation to the affected part, nature will endeavor to arrest the offending organism, and rebuild, to a certain extent, that which has been destroyed. And by applying negative pressure to these parts, that is what takes place.

In cases where suppuration and necrosis have taken place, and surgical measures must be resorted to, we know that there is a very low resistive condition present, due to the strangulation of the small vessels by fibrous tissue. Also the destruction following the operation.

By applying negative pressure as soon as possible after the operation, without causing hemorrhage, but not waiting for a complete cicatrization of the part, there will be a very rapid disappearance of the pus. The area will heal without the dry crust formation. This is due to the establishing of a collateral peripheral circulation and an increased secretion from the glandular structure.

I think you will agree with me that one of the most discouraging conditions we have to deal with is, atrophic rhinitis, in most all its forms. We know that the whole process is one of diffuse sclerosis, in which the ciliated epithelium is replaced by stratified epithelium.

In the treatment of these cases, I have tried most everything I have ever seen recommended, but my best results have been with negative pressure. First make a thorough toilet of the nose and then apply the suction to the greatest degree that the patient can stand and until you have collected several grams of a bloody serum in your container. Do this every day, until in your judgment, the condition is clear of crust formation.

In conclusion, I wish to say that if you will give a little study to the pathology of these conditions of the nose and sinuses, and the direct influence that negative pressure has on it, I feel sure that you will give this method of treatment a trial, which I am confident will bring gratification to both you and your patient.

DISCUSSION

DR. ARTHUR GEIGER, Chicago: I am very glad that the essayist took up the negative pressure idea from the standpoint he did. He says he is not a surgical

agnostic. I do not think he means that suction is in any sense a substitute for surgical intervention. As he suggested, the younger colleagues might use this negative pressure, but I am afraid the younger colleagues might temporize and there are reports of orbital abscess coming in quite frequently, so I think someone has been temporizing. Certainly the narrowing of the ostium and deviation of the septum high up, in frontal cases must be taken care of before you can get any results from suction. I would like to know how long the cases were treated and how long the cure lasted in the atrophic rhinitis cases.

DR. ELMER L. KENYON, Chicago: I am one of those who, when he speaks on the value of suction in nasal diseases, offers no apology for his interest and earnestness in advocating it. I became interested in suction first in the treatment of acute rhinitis on myself. Instead of blowing my nose I would go to my pumping apparatus and pump the nose, and I found I did not have to blow my nose much, and that I became more comfortable, while the symptoms disappeared more rapidly. The only measures I have in my armamentarium today for acute rhinitis of importance are suction and douching. I advocate suction for this purpose to my patients and use it on myself.

In my experience many cases of inactive sinus disease with little secretion are practically undiscoverable without suction. In the treatment of certain acute sinus disease I do not know of any one measure anywhere near so valuable as suction. In chronic cases after operation, the results are often quicker if one uses suction in combination with operation. In general I advocate the use of suction at home by the patient twice daily. I have tried this plan out for a long time and am much pleased with the results.

I found one difficulty, and that is that when using the ordinary suction tip in the nose, very often the soft tissues would be drawn into the tube and the opening of the suction tip closed by them, and so our purpose would be thwarted. We devised a tip that prevents this entirely, and have called it the Universal Nasal Suction Tip. It is made thus far in three sizes.

In the office I use an electric pump. For home treatment I supply an apparatus consisting of a Bier's bulb, a foot of rubber tubing and a Universal Suction Tip. Since the degree of suction is limited to the resiliency of the bulb, no harm can be done. This bulb pump is not a plaything, and yet you can give it to your patient with perfect safety. I venture to say no one has seen any untoward effects from the use of this procedure.

As to the technic, let us say this is the nasal space (illustrating on blackboard) and this (indicating) the sinus. By suction one starts a current of air from the sinus into the general nasal space and outwards into the suction tip. In a moment this current becomes so light as to be inefficient, as indicated by the feeling of decided negative pressure in the nose. When this feeling appears, at once air is again admitted to the nose, by letting up on the finger pressure over the nasal

opening, and the process of suction repeated. In sinus disease the pumping should be kept up until pus no longer can be obtained.

DR. EDWIN MCGINNIS, Chicago: I am much interested in this treatment of infection of the nasal accessory sinuses. I do not use the suction at all but think sometimes it might be of value. I have another plan of treating acute infections and of aiding in the chronic. If the mucous membrane is shrunken up the ostia of the cells will be shrunken and the cilia help to empty the cells. Exercise in the open air is more efficacious because after it the nasal membranes have been massaged and not pulled loose. A patient had a sinus operation on both sides and there was nothing left except the sinuses, which were subacutely infected. If he got a cold his antrum would flare up and he was using suction all the time. He came in to see me and said he did not know what to do. He had a Brawley suction apparatus which he carried around with him and put it on every faucet and could suck out a lot of stuff. I could not induce him to stop this practice but he went down east and I sent him to a friend of mine. We finally got him to lay off suction and after he had left it alone for three months he had no discharge, was perfectly well and in a much better frame of mind.

DR. J. HOLINGER, Chicago: It is of greatest importance to have clear ideas about therapeutic action of suction. Its purpose is not to remove secretions but to induce hyperemia. The normal reaction of Nature against local infection is inflammation and consists in redness, heat, hyperemia, and swelling. The intention of suction is to help Nature in its work against the infection; therefore increase the hyperemia instead of what we have been doing,—trying to decrease it. Before suction was used, the same effect against inflammations in the nose was obtained by constriction of the neck so that the whole face would be red or bluish and puffed up. This, of course, could not remove secretions, but it relieved the inflammation. Time is too short to enter into all the interesting experiments on the effect of hyperemia against organic infections as well as an organic poisoning. They prove that the healing is produced by hyperemia and not by the removal of secretions. If we lose sight of this fact we will make mistakes in the indications and will consequently be disappointed in the results.

DR. GEORGE W. BOOT, Chicago: There was one misstatement in the essayist's paper. He said the blood supply to the sinus was through the ostia. I think that statement will not stand.

DR. G. C. OTRICH, Belleville (closing): I am glad we opened up a hive of bees, just for a change.

Dr. Kenyon, I think, went into the question very thoroughly and I rather believe he is the one who should have presented the paper. I did not like to start something I did not know whether I could finish or not.

In the case Dr. McGinnis reported the change of air probably helped the patient because he got well before he got to his destination in the east. It is not simply a

cleansing proposition, but the establishment of hyperemia, as Dr. Holinger pointed out, and in the old, atrophic cases the establishment of a peripheral circulation. That is the whole thing in a nut shell. With negative pressure you get the cleansing but it is really the establishment of the hyperemia that brings about the regeneration of the tissue and if you take some microscopical sections you will find that the glandular tissue will be regenerated.

A CASE OF SEVERE CHLOROSIS

HARRY J. ISAACS, S. B., M. D.

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CHICAGO

Chlorosis is a disease characterized by a marked deficiency in hemoglobin, a greenish coloration of the skin, symptoms of anemia, and occurring most commonly in females between the ages of 15 and 22. This case is reported not on account of its relative rarity, but due to its severity and a most rapid recovery from increasing doses of Bland's pills.

Patient R. F., aged 20 years, female, Jewish, single, complaining of generalized weakness, languor, dyspnea and palpitation of the heart on exertion, with frequent frontal headaches and amenorrhea for six months. The patient claimed that these symptoms had been present for six months, that they were getting progressively worse and that her skin was changing color to that of a greenish-yellow tinge. Her appetite was fairly good and there were no gastric disturbances.

Menstrual History: Menses began at the age of 14, regular, every 28 days, duration three or four days, associated with some backache and generalized cramps in the abdomen. Amenorrhea from February 2, 1923. The family history, habits and previous illnesses revealed nothing of importance.

Physical examination revealed a fairly well developed adult female who did not appear to be acutely ill, and who presented a greenish-yellowish discoloration of the skin. Pulse 100; respiration 20; temperature 99.4; weight 93 pounds. The essential findings were 1. greenish-yellowish discoloration of the skin, 2. pearly white conjunctiva, finger tips and mucosa of mouth, 3. systolic murmur at the base of the heart and also at the apex, which was transmitted somewhat to the midsternum. No dilatation or hypertrophy present. Liver and spleen non-palpable. No edema or ascites was present. Reflexes were normal. No palpable glands. Blood pressure 104 systolic; 72 diastolic. Blood Wassermann negative. Urine negative on repeated examinations.

Blood Work (June 21, 1923).

Hb.....	15 per cent (Dare)
R. B. C.....	1,976,000
Color index	0.375
Leucocytes	3,500

Differential Count.

Neutrophiles	58.0
Eosinophiles	1.0
Basophiles	0.0
Small lymphocytes	30.0
Large mononuclears	11.0
Myelocytes	0.0
Nucleated R. B. C.....	0
Poikilocytosis	Marked
Anisocytosis	Marked

Discussion: The patient was sent to a hospital for observation and therapy. In view of the fact that she was running a slight septic type of temperature and had a mitral murmur over the apex, the possibility of a subacute or chronic type of (low grade) endocarditis was considered. This, however, was entirely ruled out by the fact that two blood cultures were taken which proved to be negative; the presence of a leukopenia and the absence of petechial hemorrhages. In view of the fact that both the hemoglobin and red count were very low and the presence of a marked leukopenia, one had to consider (a) pernicious anemia, (b) aplastic anemia, (c) splenic anemia, (d) various types of

after the transfusion shows: hemoglobin 15 per cent. (Dare); red cells 1,920,000; color index 0.373; white cells 12,400; the differential was polynuclear neutrophils 83.0; eosinophiles 1.0; small lymphocytes 8.0; large lymphocytes 8.0; with no nucleated red cells and a moderate degree of anisocytosis and poikilocytosis. At all times the blood was exceedingly pale and at times were mere faint rings of stained protoplasm. (Cf. table.)

From the very onset, however, the patient was put on Bland's pills with hypodermic injections of 1/2-1 grain of sodium cacodylate. Daily urines were run for signs of arsenical albuminuria.

July 16, hypodermic injections of sodium cacodylate were stopped. In addition to the above medication, the patient was put to bed with a good liberal diet. She has been up and about for seven weeks without any symptoms or complaints. At no time did she have any gastrointestinal symptoms. Menses returned Aug. 18, 1923.

Conclusions: 1. A report of a case of severe chlorosis, which responded very rapidly to increasing doses of Bland's pills.

Date	Hb. Pare 15%	R. B. C.	Color Index	W. B. C.	Poly. Neutrophiles	Eosinophiles	Small lymphocytes	Large lymphocytes	Medication
6-21-33		1,976,000	0.4	3,500	58	1	30	11	Bland's pills gr. XV. daily. Sod. Caodylate gr. 1/2 daily. Rx. as above.
6-25-23	15%	1,840,000	0.4	2,700	72	1	13	13	Rx. as above.
6-29-23	15%	1,920,000	0.4	12,400	83	1	8	8	Rx. as above. 100 c.c. blood transfusion.
7- 5-23	28%	2,648,000	0.63	16,200	68	4	10	18	Bland's pills gr. XXX daily since June 29.
7-11-23	40%	3,928,000	0.666	14,200	83	2	7	8	Bland's pills 45 grains daily since July 3.
7-16-23	50%	4,096,000	0.63	9,100	83	2	6	9	Bland's pills 60 grains daily since July 8.
7-26-23	80%	4,490,000	0.80	6,700	81	1	9	9	Bland's pills 75 grs. daily since July 17.
8- 7-23	85%	5,280,000	0.85	8,600	84	1	10	5	Bland's pills 90 grs. daily since July 23.
8-15-23	88%	5,260,000	0.88						All medication given 3 X daily.

hemolytic jaundice such as 1. acquired Hayemwidal and 2. the congenital or familial Chauffard-Minkowski types of hemolytic jaundice.

Pernicious anemia was ruled out by the blood picture which showed no pathological red cells characteristic of the disease; nor was the spleen or liver enlarged.

The various types of hemolytic jaundice were ruled out by the negative family history, absence of bile in urine, stool and blood, no jaundice and nonpalpable liver and spleen. Splenic anemia was also ruled out (no enlargement of the spleen). Thus the only other two conditions which remained were 1. aplastic type of pernicious anemia or 2. severe chlorosis.

Due to the fact that there was a marked reduction in both hemoglobin and R. B. C. the possibility of aplastic anemia was first considered. On this basis a blood transfusion was deemed advisable and the patient's father was chosen as donor (blood was typed).

June 28, 1923, 500 c.c. of blood was drawn (indirect method) from the donor and was immediately injected into the veins of the patient. After 100 c.c. were injected the patient had a severe reaction with a generalized urticarial reaction (which responded very well to 15 c.c. of adrenalin chloride, hypodermically). The blood transfusion, however, had to be stopped. The following day the patient was very icteric; this keeping up for three days.

A blood count which was made the following day

2. The maximum dose of Bland's was 90 grains daily, given in three doses.

3. A rapid regeneration of the blood shown by the final result which was obtained within seven weeks: 15 per cent. Hb. to 88 per cent; 1,976,000 R. B. C. to 5,260,000. Color index 0.4 to 0.88.

4. A slight relative lymphocytosis with the characteristic palenes of the red cells.

5 South Wabash Avenue.

THE TREATMENT OF FIBROIDS OF THE UTERUS*

EDMUND C. ROOS, B. Sc., M. D.
DECATUR, ILL.

Not so many years ago, all fibroids of the uterus giving symptoms were treated surgically. In the past few years, however, Clark of Philadelphia and others have conclusively proven the therapeutic value of radium in the treatment of uterine fibroids. It is an established fact that certain types of fibroids can be absolutely cured with radium, but not all of them. Some cases are best treated with radium, while in others surgery is indicated. These two methods of

*Read before Section on Surgery, Illinois State Medical Society, Decatur, May 16, 1923.

treatment should not be competing methods, but should go hand in hand, and both of them should be supervised by a surgeon, for they are both surgical procedures.

In our last twenty cases of uterine fibroids, radium was used in ten and surgery in ten. Of the patients operated on, one died on the fifth day of a pulmonary embolus, an unavoidable complication. There was no mortality or complications among the ten in which radium was used. In eight of the ten cases treated with radium, the tumor had entirely disappeared within six months. The two fibroids which failed to disappear entirely were both extremely large ones. Surgery, however, was contraindicated in both cases. In one the old age and high blood pressure, and in the other the extreme anemia due to severe hemorrhage, caused us to use radium. The end results were equally satisfactory in the group treated with radium and in the group in which surgery was instituted.

There are several advantages of radium over surgery, in those cases in which radium can be applied. The operative mortality in the treatment of fibroids of the uterus, even in the hands of the best surgeons, is from 3 to 5 per cent. With radium the mortality is practically nothing. The patient is saved two weeks or more of hospital expense. The average stay in the hospital after a radium treatment is five days, while after a hysterectomy or myomectomy it is usually from eighteen to twenty-one days. There is much less pain and discomfort following an intra-uterine application of radium than there is after any operative procedure, and the convalescence is much shorter. Granting these advantages of radium over surgery in the treatment of uterine fibroids, the question arises when can and should radium be used, and when should we operate.

Radiotherapy. Generally speaking, irradiation is the treatment of choice for myomas which do not extend above the umbilicus, in women approaching or within the menopausal years, and in whom the most prominent symptom is hemorrhage. This includes approximately 50 per cent. of all cases of fibroids of the uterus.

The tumor must not extend upward above the umbilicus, and the enlargement of the uterus should be uniform, that is, the fibroids should be of the interstitial type. This type always causes excessive bleeding. Therefore, in only the cases in which hemorrhage is the prominent symptom,

should radium be used. This group includes the largest majority of cases.

Radiotherapy in these patients produces an amenorrhea and climacteric symptoms, which, however, are not as severe as those accompanying a normal menopause. Therefore, irradiation should be used only in women of 40 or over, unless surgery is contra-indicated in the younger women. In the patients under 40 it is important to preserve the ovaries, and wherever possible, the child-bearing function. With surgery we can usually save one or both ovaries and oftentimes the uterus by doing a myomectomy.

Women who are poor surgical risks, or in whom surgery is contraindicated, should be subjected to radiotherapy, no matter what the age or the size of the tumor. This group of patients include those with a marked secondary anemia, those with cardiac, renal or respiratory disease, high blood pressure, and finally excessively stout women.

Radiotherapy is also indicated in the patients who are absolutely opposed to any form of surgical treatment.

Surgical Treatment. Surgery should be used in the cases in which the enlargement of the uterus extends above the umbilicus, and in all large pedunculated, subserous or submucous fibroids. Cervical fibroids should also be removed surgically.

Tumors undergoing cystic or calcareous degeneration, and suppurating, necrotic or gangrenous myomas should be removed by operation.

In women under 40, hysterectomy or myomectomy is indicated rather than radiotherapy to avoid a premature artificial menopause. During the child-bearing age, an attempt should be made to enucleate these tumors leaving the uterus behind.

Fibroids complicated by inflammatory lesions or neoplasms of the adnexa, or by other surgical conditions in the abdomen, should be operated on. Radium should not be used in patients who give a history of having had a pelvic infection of any kind, for the infection may be lighted anew by irradiation.

Tumors causing severe pressure symptoms should be subjected to surgery, as the shrinkage of the fibroid following irradiation is too slow to give relief.

Operative treatment is indicated in the cases in which there is a doubtful diagnosis, not only

of an abdominal tumor, but of the type of tumor.

Whether radium or surgery is the best treatment in the cases of malignant degeneration of fibromyomas, is still a much disputed question. Enough time has not yet elapsed to determine whether or not radiotherapy has any curative advantage over a panhysterectomy in these patients. Certainly the immediate mortality is much lower with radium.

Technic of Radium Application. The technic of radium application is comparatively simple, and has become quite standardized for the treatment of uterine fibroids. The patient is prepared as for a simple dilatation and curettage. Nitrous oxide and oxygen anesthesia has been found to be the anesthesia of choice. A careful pelvic examination is made, and the depth of the uterus is ascertained with a uterine sound. The cervix is then dilated, and a thorough curettage performed. The curettings are saved for microscopical examination. This examination is most important, and should never be neglected, for if any evidence of malignancy is found under the microscope, the treatment will necessarily be much different. A 50 mgm. tube of radium filtered by 1 mm. of brass and 1 mm. of rubber is placed high up into the uterine cavity. The bladder and the rectum are carefully packed away from the uterus as far as possible with a gauze pack, to prevent injury to these organs.

The duration of the application depends on the general condition of the patient. If the patients' condition is fairly good, the radium is left in for 24 hours, making a total of 1200 mgm. hours. If the patients' general condition is poor, due to an extreme anemia or other complications, two 12 hour applications are made, with several days intervening between each application. One 24 hour or two 12 hour applications are usually sufficient for a cure. It is rarely necessary to use more than a total of 1200 mgm. hours. Supplementary roentgen-ray treatments are not necessary, except in very large fibroids which have been treated by radium because of some contra-indication to surgery.

The immediate results of irradiation are not unlike those following a simple curettage. Occasionally the patient may have to be catheterized once or twice during the 24 hours because of the presence of the large vaginal pack. There may be some nausea and occasionally vomiting, but this ceases a few hours after the radium has been

removed. The patient should remain in the hospital for five days, the same as after a simple curettage. As a rule she is allowed to sit up the third day and to leave the hospital on the fifth.

X-Ray Therapy. The roentgen ray may be used instead of radium in the treatment of fibroids of the uterus with equally good results. The dosage, however, has not yet been sufficiently standardized to make this form of treatment as safe and as practical as with radium. In large tumors extending above the umbilicus which have been treated by radium because surgery was contra-indicated, x-ray therapy should be used as a supplementary agent. In the smaller fibroids we have found that radium alone is sufficient.

CONCLUSIONS

1. A large percentage of uterine fibroids can successfully be treated with radium.

2. The field for both radium and surgery in the treatment of these cases is well defined, and each patient must be studied individually to determine which line of treatment should be instituted.

3. Generally speaking, interstitial fibroids not extending above the umbilicus, occurring in women 40 years of age or over, and which cause excessive bleeding, should be treated by irradiation instead of surgery.

4. Radium should be used in preference to surgery, in cases suitable for irradiation, because of the lower mortality and morbidity with radium, and because of the difference in the economic aspect of the two lines of treatment.

5. There are definite contra-indications to the use of radium in certain types of uterine fibroids, and surgery is then the treatment of choice.

6. The technic of intra-uterine radium application is simple, and has become standardized.

7. The best interests of the patient are disregarded if either surgery or radium is used exclusively and indiscriminately in the treatment of fibroids of the uterus.

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DISCUSSION

DR. McCULLOUGH, Decatur, Ill.: As Dr. Roos went along with his paper I thought that possibly there might be some issue I could take with him in the matter of roentgen ray therapy but he finally came around and included that in his paper so that I have not much to add to it. Undoubtedly radium is indicated in great many cases of myoma of the uterus. It is very easily applied after a diagnostic curettage which

is very important in these cases. These cases should never be treated blindly but only after curettage has ruled out to a reasonable degree the possibility of malignancy. Roentgen therapy has been used in the treatment of fibroid tumors of the uterus probably to a much greater extent than radium thus far, though radium is becoming more popular in the last few years, a great many men having access to it, and the balance of power will probably swing to it later. Beclere of Paris has reported something like seven or eight hundred cases of fibroid of the uterus which he has treated by roentgen therapy over a period of years with great satisfaction.

I think in the discussion of the fibroid problem the question of myopathic hemorrhage should also come up. It is very questionable in my mind whether these cases should be treated by radium. I think that probably x-ray treatment is preferable. Of course in very young women, if possible, simple myomectomy should always be done. Conservation of the child-bearing function is of great importance. I do not think there is anything further that I can add except to compliment Dr. Roos on his very able presentation of the subject.

DR. W. R. LARKIN, Chicago: There are three features in connection with a discussion of fibroids which might be mentioned. Radium can be applied in young women with a reduction of the tumor without destruction of the child-bearing properties and later the patient may be delivered of a normal child. That has occurred in three cases to my knowledge.

Another point is in regard to the dosage. The packing of the vagina causes a great deal of discomfort frequently and I believe that doses as low as 1,200 mg. hours do not materially affect the bladder or rectum. I believe that except in severely anteverted uteri which may lie immediately against the bladder, packing is unnecessary, at least heavy packing.

Frequently radium is used in these cases of fibroid with severe hemorrhage to stop the hemorrhage in order that the patient may be made a better surgical risk. Those three points are all I have to mention in regard to a very carefully worked out paper.

DR. E. C. ROOS, Decatur, Illinois (closing the discussion): I want to thank the doctors very much for the discussion of my paper.

Dr. McCullough spoke of the treatment of myopathic hemorrhage. We have found that the treatment of myopathic hemorrhage with radium has been just as satisfactory as the treatment of fibroids has been. In women of 40 years or over I prefer to use radium rather than x-ray in the treatment of hemorrhage from the uterus.

Dr. Larkin spoke of packing the vagina with gauze. We do not make our patient uncomfortable with gauze packs. We have never had any complaint. We pack very carefully anteriorly and posteriorly to the cervix of the uterus and fill the vagina full of gauze. One thing we do not do is to pack the cervix with gauze. We think that if the cervix of the uterus is packed with gauze the patient will have some pain. This is

due to the fact that we are introducing a foreign body in addition to the radium into the uterus and the uterus tries to expel this gauze pack. I think we can do away with this cervical pack if we pack the fornices very carefully and not too tightly with gauze. I would much prefer to use gauze to keep the bladder and rectum as far as possible from the radium and avoid fistulae. Though 1,200 mg. hours is not a very large dose, in some cases in which the resistance is low and the patient is not in very good condition, a fistula might occur even with 1,200 mg. hours. I would much rather take a chance of having the patient a little uncomfortable than to leave out the gauze pack and run the risk of having the bladder or rectum injured.

Dr. Larkin also spoke of the use of radium in making the patient a good surgical risk. This we often do. We find that patients who have been bleeding very extensively, with hemoglobin and red blood cells way down, are poor surgical risks and we must stop the hemorrhage in some way. We can do this very successfully with radium. The hemorrhage will stop in a very few hours after the radium is applied. It may start again, but it will not be so severe. After the application of radium the patient is built up and the operation should be done as soon as possible. If the operation is put off two, three or six months you will find that the radium has caused a fibrosis in the parametrium and it is much more difficult to remove that uterus. If it is a surgical case the patient should be operated on as soon as her condition warrants it.

THE INFLUENCE OF THE TECHNIC UPON THE SPECIFICITY OF THE LUETIN REACTION

FERDINAND HERB, M. D.

CHICAGO

The fond expectations entertained in former years to find in the luetin reaction the much needed specific test for syphilis have so far failed to be realized, owing to the confusing results obtained with this test by many investigators. In spite of this fact there is ample ground to support the view that the principles upon which the luetin reaction rests are scientifically correct. These principles are identical with those underlying von Pirquet's tuberculin test and the Schick reaction, which both are used extensively and successfully. But more than such suggestive evidence is required to establish confidence in the results of a test that means so much to the human race. A definite criterion is needed by which we may determine objectively and independent from personal opinion and speculations the exact meaning of the clinical findings. It is the object of this paper to offer this criterion and to show that the confusing results heretofore obtained are due

to the improper preparation of the luetin, and that clear-cut and specific reactions can readily be obtained by adopting the necessary changes.

To prepare a scientific basis for the recommendation of these changes, it will be necessary to give at least a rough outline of the present standpoint as to the bio-pathology of skin reactions.

All writers agree that the skin reactions following the intradermal injection of foreign substances are due to toxins elaborated at the site of the injection. Opinions, however, differ as to the matrix of these toxins. One faction asserts that the toxins originate from the injected material during its parenteral digestion. The opposing faction asserts that the toxins originate from the body substance of those injected. Its adherers assume a hypothetical substance, called "antiferment," a substance supposed to prevent the body ferments from acting. Normally, they believe, there is a balance struck between ferments and antiferments. The injection of foreign substances disturbs this balance by absorbing the antiferment and "following such absorption the serum proteases normally present may split the serum proteins to toxic products."¹

It is not the object of this paper to participate in this controversy, except in so far as it concerns the luetin reaction. Therefore, suffice it to say that, according to the opinion of the first faction, skin reactions, such as the luetin reaction, are specific; while, according to the opinion of the second faction, such skin reactions are non-specific. A definite decision is still wanting. However, the present trend of opinion is evident from the fact that the Schick reaction and von Pirquet's tuberculin reaction are now universally accepted as specific. Grave doubts, however, still exist as to the specificity of the luetin reaction.

To assist in unraveling this tangle I wish to introduce a new factor into the discussion. It will, I believe, not only prove the specificity of the luetin reaction, if made with the correct material, but it will also tip the scales in favor of that faction, above mentioned, which claims the injected material as the matrix of the toxins.

This new factor is the character of the infiltration found at the site of skin reactions, as the cellular elements of these infiltrations always express exactly the nature of their mission.²

In the parenteral digestive apparatus, which represents the defensive mechanism of the body, different phagocytic cells elaborate different fer-

ments. Thus, the lymphocytes and their derivatives, the plasma cells, elaborate only lipases, that is, lipolytic or fat splitting ferments. On the other hand, leucocytes, and especially the great group of polymorphonuclear leucocytes, elaborate only proteases, that is, protein splitting ferments. Both groups of cells are, therefore, specific, so to speak, in their action. Between them stands the predominating group of most active phagocytes, the endothelial cells of the blood and lymph vessels throughout the body. They are not specific, as they possess both proteolytic and lipolytic ferments and can digest both fat and protein.

It is plain and evident that Nature will send those cells to a place of action, for instance, to the site of an intradermal injection, that are best suited to cope with the situation, that is to say, Nature will send leucocytes to a place where protein or protein containing microorganisms have to be disintegrated; it will send lymphocytes to the place if fat or fatty substances, or microorganisms containing them, have to be disintegrated. Nature makes no mistake in this arrangement. The character of the infiltration bears, thus, positive proof of the nature of the substance that is being disintegrated and provides the matrix of the toxins elaborated at the site at which the intradermal test is made.

With these preliminaries in mind, the decision as to the matrix of the toxins is easy and definite if fat or fatlike substances are injected, as, for instance, the tubercle bacillus or the treponema. The bodies of both organisms are of lipoidal character.² If they are the substances from which the toxins come, the infiltration following their injection must be lymphocytic; if they only act as antiferment absorbents and the serum proteases, thus uncovered, "split the serum protein to toxic products," the infiltration must be leucocytic.

The microscopic examination of the infiltration following the injection of tuberculin shows it to be lymphocytic. There can be but one conclusion, namely, that the tuberculin is the matrix of the toxins.

Tuberculin contains a very small quantity of protein, originating from the culture medium in which the tubercle bacilli are grown. Owing to the great dilution of the tuberculin, however, the quantity of protein is too insignificant to change the character of the infiltration.

Conditions are entirely different in regard to luetin. This biological reagent is made almost

exclusively according to the original formula advanced by Noguchi. It contains comparatively large quantities of protein, coming from the agar and the ascitic fluid upon which the treponemata are grown. This protein will produce reactions and non-specific leucocytic infiltrations in many instances in which no syphilis exists. Thus confusing results are inevitable. In cases of syphilis, the leucocytic infiltration can exist together with the lymphocytic infiltration and may entirely overshadow the specific reaction. Strickler and Asnis,³ who investigated microscopically such infiltrations, found just such conditions as described above. The infiltrations were composed either entirely of polymorphonuclear leucocytes, located mostly in the deeper layers of the skin, (negative reaction) or predominantly so, with an admixture of lymphocytes in the superficial layers of the skin (positive reaction). In commenting on these findings and on the fact that the infiltrations following the injection of tuberculin present only lymphocytes, these authors say: "We are in no position to offer any explanation for this difference, for in actual diseased states, of both tuberculosis and syphilis, the predominating biological cell is the lymphocyte."

With the proof furnished that the treponema is the matrix of the specific toxins which cause the specific inflammatory symptoms, the specificity of the luetin reaction is established. The specific body substance of the treponema cannot be digested except by specific antisyphilitic ferments. These ferments must, therefore, be in the serum, proving definitely that syphilis exists, whenever the injected treponemata are split into toxic products at the site of the injection and give rise to the specific inflammatory symptoms and a positive luetin reaction, characterized microscopically by a lymphocytic infiltration. It is on account of the appearance of these specific ferments in the serum that the luetin reaction gets positive occasionally at the end of the second period, in 100 per cent of latent syphilis and very frequently in the third period of syphilis;⁴ and ⁵ it is on account of their absence from the serum for reasons stated in earlier papers ⁴ and ⁵ that the luetin reaction is negative in the first and second period of active syphilis. These earlier papers fully confirm our present findings and round out completely the evidence here presented as to the specificity of the luetin reaction.

Any development of leucocytic, non-specific in-

filtration during the course of the luetin reaction is fatal from a clinical standpoint, as the non-specific leucocytic and the specific lymphocytic infiltrations cannot be distinguished from one another either by sight or touch. An attempt has been made to overcome this fatal obstacle by combining the luetin test with the so-called "control test," that is, by injecting the culture media without treponemata at a different site. But the control test makes the entire procedure too cumbersome and does not entirely obviate diagnostic errors.

Happily, however, we are in a position to remove all these difficulties, including the necessity for a control test, and to obtain a 100 per cent specific luetin reaction, that is, a 100 per cent lymphocytic infiltration, by injecting a 100 per cent pure and specific test material.

Changes Required in the Preparation of the Luetin. The 100 per cent pure and specific test material is obtained by making the following changes in the preparation of the luetin:

First. All traces of the culture medium must be removed carefully and the treponemata be suspended in pure salt solution.

Second. A fresh strain of full virulence must be used to make the cultures. The longer a strain is grown on artificial media, the more it is apt to become non-specific as to its antigenic and, especially, as to its diagnostic qualities.⁶ Experienced bacteriologists are well aware of this fact.

Third. The organisms should not be killed by heat. The deleterious influence of heat upon the specific antigenic properties of proteins is too well known to require emphasis here. The heat originally employed to kill the microorganisms in the manufacture of vaccines has been supplanted entirely by chemical agents, as heat killed organisms were soon found to be of inferior therapeutic value. Still more conspicuous is the deleterious influence of heat upon the specificity of bacterial proteins as seen from the fact that the specific protein bodies in the diphtheria toxins lose entirely their antigenic properties when heated for only 10 minutes to 75 degrees C.⁷ No objection should be made against killing the organisms by chemical agents because they produce a transient erythema. It is not the erythema but the infiltration that is the characteristic feature of a positive luetin reaction.

Of minor, though not of negligible, importance are:

Fourth. The intradermal injection should be made without undue traumatism. Killed tissues or extravasated blood may give rise to a non-specific, leucocytic infiltration in the same way as injected foreign protein and had better be avoided.

Fifth. The concentration and the quantity of the injected luetin should be as small as it is compatible with good results.

CONCLUSIONS

The confusing results heretofore obtained with the luetin test are due to the improper preparation of the luetin. Specific reactions will be obtained by adopting the following changes:

1. All traces of the culture medium must be removed carefully.
2. A fresh strain of full virulence must be used to make the cultures.
3. The organisms should not be killed by heat.
4. The intradermal injection should be made without undue traumatism.
5. The concentration and the quantity of the injected luetin should be as small as is compatible with good results.

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THE PSYCHOLOGY OF THE TUBERCULOUS PATIENT.*

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Every student of tuberculosis has noticed the frequency with which that vague and indefinite symptom group known as "neurasthenia" is found in patients presenting evidences of tuberculous disease. The neurasthenic condition may precede all evidences of pulmonary disease for months and years and may continue in varying

forms of nervous aberration throughout the entire course of the disease. In fact, viewing the subject from the other angle, Head insists that a very large percentage of so-called neurasthenics harbor a tuberculosis which evades detection by any of our ordinary diagnostic methods. In other words, many of our tuberculous patients show evidences of neurasthenia, while Head contends that scores of neurasthenics are tuberculous even though the tuberculosis cannot be proven. A prominent neurologist has said to me that the only difference between my patients and his, is that my patients have tuberculosis *too*.

It is to be accepted, then, that the average tuberculous patient presents the problem of requiring treatment which necessitates the utmost patience and the most complete self-control required in dealing with any disease and is singularly handicapped by a definitely unstable nervous and mental make-up. This unfortunate combination, as I see it, has a definite practical bearing not only in diagnosis, but especially upon our treatment and our prognosis.

Bullock, of Silver City, who has collected unusually complete data relative to his patients, over a period of twenty-five years, and who, incidentally, is something of an enthusiast on climate, declared to me in personal conversation, that what he chooses to term "temperament" is a factor representing 30 per cent. in the recovery of the patient while to climate he gives a value of only 10 per cent.

In view of these facts it has appeared to me, during the past few years, that a more intelligent idea of the prognosis may be gained if, in the initial examination and on further observation, we endeavor to gain a very clear idea of the temperamental or psychic make-up of the patient and to this end I have included certain items in an already rather voluminous case history. Such observations have been extremely useful in forecasting the outcome of the patient and have given some support to my pre-formed opinion that the moderately advanced patient with considerable activity and with good temperamental make-up has about as good chance of recovery as the patient with earlier and less active disease who is psychologically and temperamentally unfit.

These initial and subsequent observations also afford practical hints as to the treatment and handling of the patient, indicating those who will require the most careful supervision, the greatest

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encouragement, the firmest repression and the most carefully considered discipline. It has always been my contention that the tuberculous patient requires the most carefully individualized handling and that, often, consideration of his heart and soul and mind is infinitely more important than searching scrutiny of his liver and gizzard and heart and lungs. The personal approach to the patient and the attitude of his physician if properly guided, will often serve to control the neurasthenic tendencies which manifest themselves in alternating exaltation and grave depression; in restlessness, discontent, unreasoning complaint, instability of purpose and lack of self-control which so frequently spell failure.

A previous knowledge of these tendencies may be gained by the carefully made case history—provided the case history is made by the keenest and best informed man on the staff and not relegated to a nurse or medical tyro as is all too frequently the case,—and this previous knowledge is of infinite value.

It must be borne in mind that the psychic and temperamental abnormalities of the patient may be either inherent faults of the individual or may be the results of the toxemia of the disease—and they may be due to both. If it is found, upon inquiry of friends, that the patient comes of poor mental stock; that he has always been queer, morose and beset by idiosyncrasies, the problem of his care becomes very difficult in a disease which requires unusual intelligence and sound sense and our prognosis is decidedly affected.

If, on the other hand, we learn that the patient was temperamentally normal until the onset of his tuberculous disease, or even until two or three years before the onset of his disease, we may reasonably attribute the neurasthenic condition at least in part to the tuberculous toxemia and may become more hopeful, expecting that the nervous and psychic disturbances may abate with the decrease in disease activity. The success of Weir Mitchell, in treating neurasthenic condition of toxic origin, by prolonged rest may prove suggestive and encouraging to those of us who still regard rest as the factor of paramount importance in the treatment of tuberculous disease.

The occasional astonishing results, in changing the disposition and temperament of the patient, by sudden decrease in toxemia has been noted in the employment of artificial pneumothorax in

certain individuals and the squeezing out of large quantities of pus and other toxic material.

Having gained some knowledge of the patient with neurasthenic tendency, the physician fails in his opportunities unless he studiously cultivates his acquaintance and in this the physician in charge of the smaller sanatorium has a distinct advantage over the man at the head of the larger institution or the physician who sees only ambulatory cases at rare intervals. Delegating this very delicate and discriminating study of the patient to the ordinary medical assistant of moderate experience will always prove disappointing. In the study of the personality of the patient, ripe experience cannot be substituted by modern scientific or technical training, for the psychology of the tuberculous is not yet written in text-books or reduced to scientific tests and formulae.

The physician who is capable of reading the temperamental tendencies of the patient and who will give his time and earnest attention to it, will often be rewarded by information quite as valuable as his trained ear can gain through the stethoscope or his experienced eye can acquire from the x-ray plate.

The intelligent employment of occupational therapy in these more extreme cases; the guiding of the tendency of the patient in reading and especially the friendly, sympathetic and fatherly attitude of the physician may be extremely helpful. Incidentally, the beneficial results will be greater if the physician who employs occupational therapy really knows occupational therapy, just as the medical treatment of any patient is a bit more successful if the physician knows something of his materia medica and has a reasonable notion of the dosage of drugs. The reputation of occupational therapy has suffered somewhat on account of its rather irrational employment by medical men in leaving its application too much in the hands of lay craftsmen and teachers.

The unstable temperament of the tuberculous patient makes him always desirous of new cures and his mercurial tendency renders him readily subject to psychic suggestion either by word of mouth or by material aid. I am by no means a therapeutic nihilist; nor am I disposed to belittle the results which others feel they derive from any therapeutic agencies; but I am convinced that much of the benefit which follows the use of hypodermic medication, regardless of what

is given, and such things as the alpine lamp, is in part at least due to the peculiar suggestability of the patient.

These remarks are merely suggestive. They are merely offered at this time to raise the question as to whether—in view of the fact that temperamental and psychic elements are so constant in tuberculosis—we cannot gain much for the patient and for ourselves in recognizing that fact and in making the study of the nervous and mental equipment of the individual a more definite part of our diagnostic work.

Can we not, by a brief study of the patient and his forebears, his mental twists and temperamental curves, reach a clearer conclusion as to his probable restoration to health and to his place in the world?

Can we not, by more careful study, anticipate his temperamental and neurasthenic outbreaks? Can we not more intelligently guide his care, his discipline and his infinitely important education—for education is, after all, our most important work?

Can we not more clearly differentiate the cases of inherent mental and nervous instability from the neurasthenic types of toxic origin which will tend to clear themselves if properly handled?

Can we not apply our therapy more discriminatingly if we know what patients are most susceptible to psychic influence and which patients have within themselves the poise which renders much of our spectacular treatment unnecessary?

Is not this possibly one of the lines in which we shall come to see that knowing the tuberculous patient is just as vital as knowing the technical facts of tuberculous disease?

PAIN AS AN EVIDENCE OF ANO-RECTAL DISEASE

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Pain is often the chief symptom which brings the patient to the physician, and because of the abundant nerve supply to these parts many lesions cause agony. The patient's statement that he has pain in the rectum must be qualified. The character of pain must be determined, whether acute, lancinating, dull, aching or throbbing; its location at the anal orifice, within the anal or rectal canal, or in the peri-rectal structures along side of or behind the anus; whether

localized, general or reflected; the time of its occurrence as regards defecation, sitting or walking; and whether it is of constant duration, or intermittent. When the pain was first noticed, when and how it began, and whether it has changed in character or intensity, are all important features. Lesions of the anal canal are characterized by the most severe cutting pain, while those within the rectum do not exhibit pronounced pain, but rather a sense of heat, weight and bearing down sensations in the pelvis. Rectal disturbances are frequently associated with reflex symptoms, such as irritable bladder, neuralgia of the uterus and its adnexa, sacral ache and flatulent colic.

The pain of a deep abscess is often indefinite as to its exact location. An ischiorectal abscess may cause a sharp pain simulating a fissure or a bruised, inflamed hemorrhoid.

Pain is much more acute at the muco-cutaneous junction and is progressively lessened as higher levels in the rectum are reached. A sharp, cutting pain refers to the anus while a dull constant pain refers to the rectum.

A feeling of fullness after the evacuation or a desire for further action may indicate proctitis or a non-inflammatory tumor, such as a hemorrhoid or polypus.

In acute proctitis there occurs spasmodic contraction of the anal sphincters, together with bearing-down feelings, which are so closely allied to sensations of pain, that they may truly be described as such. These symptoms are likewise present whenever the internal variety of hemorrhoids become inflamed and ulcerated.

Intermittent pain coming on with or shortly following defecation almost invariably indicates a lesion in the anal canal, and also sudden darting pains, occurring at intervals between stools usually have their origin in this region. Pains lasting for some time after defecation, especially sharp, cutting ones suggests ulceration of the anus or within the crypts of Morgagni.

From the sufferer's description of his symptoms one would expect to find a fissure, inasmuch as the pain is very like that from such a lesion, with the exception that it is likely to be more continuous. If no fissure be found, each separate crypt should be carefully explored.

Pain accompanied by continual tenesmus, may be caused by a foreign body impacted in the anal canal, or imbedded in the anal mucosa. The

prompt relief to the sufferer which comes after a piece of chicken bone, a toothbrush bristle, or a sharp fragment from the core of an apple, etc., is removed, compensates one well for the time and care taken in the examination. A fecal impaction is another foreign body causing symptoms similar to the foregoing. It is surprising how often its presence remains undiscovered, even by otherwise good surgeons, simply because they have failed to make a digital examination of the rectum.

A throbbing pain suggests an abscess and a rise of temperature and an increased leucocytosis should be sought.

A dull, aching pain, made worse by exercise or mental worry and shooting toward the prostate means congestion about the anus and probably means hemorrhoids; the prostate may or may not be at fault. This same neuralgic pain may follow any pelvic operation when congestion occurs.

Pain over the coccyx increased by pressure upon or movement of the coccyx suggests coccygodynia. It may sometimes be due merely to fatigue of the dorsal muscles; this pain comes on in the course of the day and is relieved by repose. Sacral pain may occur from stretching of the ligaments of the iliosacral joint, and the ligaments are found tender, especially in women with oblique pelvis. Massage, gymnastics and strengthening measures may help.

Painful points on either side of the sacrum at its junction with the lumbar vertebrae, especially if associated with a dragging and burning sensation in the left iliac region or lower abdomen, indicates intussusception of the sigmoid.

A burning pain indicates ulceration or acrid stool or free bile in the stool.

Pain shooting down the legs and in the lumbar region indicates cancer or ulceration of the rectum.

Sharp cutting pain occurring during constipated evacuation and followed by a swelling at the anus indicates a thrombotic hemorrhoid.

Pain on standing or walking indicates fistula.

Pain in the left inguinal region is significant of affection of the sigmoid and must be differentiated from ovarian disease and left-sided appendicitis. The iliac roll or sausage shaped roll occurs in chronic sigmoid diseases.

Pain constant, but made worse by defecation indicates a blind internal fistula.

Pain seldom occurs with a complete fistula unless the external opening closes, thus allowing the sinus to become distended with pus. Sometimes, when least suspected, an internal blind fistula may be found to be the hidden cause of pain.

Pain in the anterior median anal commissure may be fissure or it may be reflexed from the urethra, prostate, or bladder, or a retroverted or retroflexed uterus, or a prolapsed and inflamed ovary in women.

Pain, constant, intense, burning and confined to one or two spots indicates hyperesthesia or hysteria of the rectum and may be mistaken for the pain of an ulcer.

Pain, cutting, throbbing or heavy and felt within the rectum is almost surely due to acute catarrhal proctitis.

Pain high up in the sacrum, dull, aching and constant suggests fecal impaction.

Intense pain, sometimes steady, and at others darting in character is a concomitant of rectal neuralgia, the rectal crises of tabes and the rectal aura of epilepsy. While in my own experience these are rarely encountered, it behooves one to remember them as possible causes of very severe rectal pain whenever, upon examination of the anus, rectum and sigmoid, no disorder can be discovered. Likewise, it should be borne in mind that rectal pain may possibly be but a reflex from disease in other organs—in most instances the genito-urinary organs, in either sex.

On the other hand many rectal disturbances do not cause the several inconveniences usually ascribed to them as for instance:—

Uncomplicated internal hemorrhoids rarely give rise to pain. Many individuals have hemorrhoids for years in quite a well developed form, without being in any way aware of their presence; others with the same condition, may experience only a sense of fullness and discomfort in the rectum. However, when the hemorrhoids become inflamed, ulcerated or strangulated, pain then becomes a predominating symptom.

In the early stages of rectal cancer, pain is usually absent. The disease may go on to even complete obstruction of the bowel—that is when it is located in the ampulla, or in the upper third of the organ—without causing more than an indefinite sense of uneasiness in the parts. Should such a growth become ulcerated, then pain commences, not necessarily acute, but dull and heavy, and more noticeable after exercise

and at night. On the other hand, when the anal region, which is especially endowed with sensory nerves, is involved, there is early and constant acute pain, to which often is added most disagreeable heavy, bearing-down sensations.

Chronic Pelvic Infections: A most difficult class of women patients to diagnose are those with pelvic pain without well defined pathology. Mistakes are commonly made in such cases, as the pain may be due to pathologic states that cannot be detected on pelvic examination, or the patient may complain of pain without the presence of pathology in the pelvic organs. Adhesions may involve the uterus, intestines, ovaries, tubes or pelvic peritoneum, and may be so located as to escape detection by pelvic examination. It is, therefore, easy to appreciate that any examination which will put such adhesions on tension will be attended by pain. This fact can be utilized in the diagnosis of such cases.

Pain within the pelvis and often spoken of as being in the rectum may arise from one or more of a number of extra rectal conditions. Varicosities of the veins in the pelvis may occasion very chronic, tormenting pains, which usually come when one is lying on the back. The phlebectasia can sometimes be palpated and if found the suffering is cured by ligation of the enlarged vein. Kinking or stenosis of a ureter or traction from adhesive bands is liable to cause a similar pain when catheterizing the ureter may straighten it and put an end to the pain. Another cause for these pains may be found in retroperitoneal tuberculous glands. Kneise has cured several such cases by operation and tuberculin treatment. A frequent cause of pain is abnormal movability of the cecum or sigmoid flexure or in other instances a fixity due to adhesions about the sigmoid binding it down. In women these adhesions are particularly liable to cause disturbances during pregnancy and the puerperium. Adhesions about the sigmoid are found very often but they do not always cause pain. They are usually connected with, possibly extinct, disease of the genital organs, and the pains are generally mistakenly ascribed to displacement of the uterus. In such cases the pain persists after operative correction of the displacement, or is even aggravated because the traction is made greater.

We must also emphasize the importance of distinguishing between the stimulus that causes the pain and the brain that perceives it. By

psychotherapeutic suggestion and general strengthening measures we may be able to reduce the acquired oversensitiveness of the central nervous system and thus cure from another angle. Even with unmistakable hysteria or neurasthenia there may be local causes of pain. Careful search for these causes will reduce more and more the number of cases of purely psychic pains, although never doing away with the latter entirely.

PNEUMOTHORAX WITH A CASE REPORT OF SPONTANEOUS OR IDIOPATHIC PNEUMOTHORAX*

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Pneumothorax is a condition in which air or gas occurs in the pleural cavity. This cavity is potential, not actual. A negative air pressure of from 3 to 5 mg. of Hg. occurs normally here. This negative pressure is due to the elastic recoil of the lungs and fluctuates with the various phases of the inspiration and expiration. Upon the maintenance of this negative pressure the possibility of orderly respiration depends, and when this pressure is altered so that it approximates or exceeds the atmospheric pressure a pneumothorax has been established.

Air may find its way into the pleural cavity by wounds from without, involving perforation of the parietal pleura or from disease of the visceral pleura allowing air to enter by way of the lungs. Sometimes ulcerating communications between the esophagus or stomach and pleural cavity are responsible. Rarely it is due to gas forming organisms on the spot or to spontaneous rupture of the visceral pleura, independent of pleuro-pulmonary disease. It is estimated that 90 per cent of the cases caused by pleuro-pulmonary rupture are due to tuberculosis. Partial pneumothorax following pleurocentesis is common and usually harmless. Pneumothorax is more common in adults than in children and in males more than females.

Pneumothorax is seldom uncomplicated. In most cases there is an effusion. In penetrating wounds of the chest the effusion frequently takes the form of blood or pus. In tuberculous cases it may be pus, serous or hemorrhagic. Even in spontaneous pneumothorax or when this condition is induced for therapeutic purposes serous

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effusion is not uncommon. In valvular pneumothorax air enters the pleural cavity with inspiration and cannot escape at expiration. In open pneumothorax there is free ingress and egress of air. A closed pneumothorax is one in which the aperture becomes sealed after the primary entrance of air. In pneumothorax due to erosion of the pleuro-pulmonary tissue by tuberculosis, the point of rupture is usually located in the upper lobe, a little below the apex.

The symptoms of pneumothorax vary with its cause, extent and nature. When the collapse of the lung is sudden and extensive the symptoms are acute, being marked by intense pain in the chest, severe dyspnea, rapid shallow pulse, more or less lividity, anguish and cold perspiration, together with great prostration. Cough is a common finding even in non-tuberculous cases. When the condition comes on gradually or cannot become complete because of pleural adhesions as in certain cases of tuberculosis, and in spontaneous or traumatic cases where the volume of air in the pleural cavity is limited, the symptoms are insidious and the pneumothorax is overlooked unless searched for or accidentally revealed by x-ray.

In a valvular pneumothorax the symptoms become progressively worse and speedily go to a fatal termination unless relief is promptly instituted. The cause or underlying disease and the complications, of course, tend to modify the symptoms complex.

The physical signs of an uncomplicated pneumothorax are definite and unmistakable to the careful examiner. In a well marked case the affected side is enlarged, mobility is diminished or absent, and the interspaces in thin subjects are flush with the ribs or even bulge. The apex beat is displaced and Litten's phenomenon is absent, on the affected side. Voice fremitus is diminished or entirely absent. However, in a pneumothorax of moderate degree none of the above signs are very noticeable except displacement of the apex and modification of fremitus and Litten's phenomenon. Percussion ordinarily shows tympany, sometimes an amphoric quality is elicited or when the intrapleural tension is great there may be dullness. If there is fluid present, dullness at the base is easily made out and its shifting quality is likewise readily demonstrated. Auscultation findings vary. The vesicular murmur may be completely suppressed, but if there

is any filling of the affected lung there is always some vesicular element retained, but it is delayed in each phase of the respiratory act. Bronchial breath sounds of an amphoric quality are not infrequent. The whispered voice changes depend upon the air tension and the complications. The coin sound is nearly always demonstrable. The metallic tinkle and succussion splash are found where fluid is present. The potency of a communication between a bronchus and the pleural cavity gives signs according as it is located above or below the fluid level or the entire absence of fluid. Rales are not a sign of pneumothorax but depend upon moisture in the alveoli and bronchi. In uncomplicated cases they may be entirely absent. The displacement of organs is easily detected. The shifting of the apex beat with the phases of respiration is uniformly present except in cases of large exudate, consolidation or adhesions. The x-ray signs are pathognomonic.

The diagnosis as a rule is easy. The following conditions require differentiation: Diaphragmatic hernia, pleural effusions, large phthisical cavities, and pyopneumothorax subphrenicus and emphysema. The differential points are usually well marked and need no repetition. If an x-ray is available the differentiation is simple.

The prognosis varies with the cause. The average mortality is 70 per cent. Tuberculosis cases have a high mortality, also those associated with empyema, abscess or gangrene of the lungs. Duval estimates that 50 per cent of patients with lung wounds die within twenty-four hours as a consequence of pneumothorax and hemorrhage. In gaping wounds the mortality is twice as high as in close cases, chiefly because of infection. Some early cases of tuberculosis are apparently benefited by the development of a pneumothorax.

A case report of pneumothorax follows: W. S. White, male, aged 25 years; height, 5 feet 7½ inches; weight, 135 lbs; fairly well developed and nourished; occupation, clerical work. He had the usual diseases of childhood and in 1915 sustained a rupture of the urethra by falling astride of a two by four. In the spring of 1919 he had influenza. He has had frequent sore throat and occasional spells of rheumatism in the ankles. The family and personal history is negative for tuberculosis.

While on a vacation in northern Wisconsin, the morning of August 19, 1920, his brother jerked the bedclothes from him. He turned suddenly from a prone position to the left side and immediately felt a sharp pain in the lower right chest. He got dressed

and noticed that the pain was spreading upward and toward the mid-line. There was a slight cough, but no dyspnea. By noon hot applications were applied with some relief. The pain on coughing was localized and under the length of the sternum. Home remedies, such as aspirin and mustard plasters, were used without much change until Aug. 22, when he was seen by a physician who advised him to go home, as there was a "quart of water on his lungs." There was no temperature, according to the patient's report. He arrived home on the night of August 24, when he was first seen by me. Observation and inspection shows a young man in good spirits. He talks freely and without discomfort and complains of moderate coughing spells, and slight substernal pains. There is no respiratory distress.

Physical examination shows the head and neck to be negative, the skin clear and no adenopathy. The chest is of the flat, spare type and the contour is practically symmetrical. The rib interspaces on the right side are wider and more shallow than on the left and the motion is slightly diminished. The diaphragm shadow cannot be elicited because of adverse lightning conditions. The apex of the heart is visible and is displaced to the left and moves with respiration, 11 cm. to the left of the mid-sternal line at the height of inspiration and 14 cm. at the end of expiration. Percussion shows a corresponding shift of the right and left borders.

Palpation shows absence of vocal fremitus over the right chest and percussion reveals tympany down to the costal margin on the mid-clavicular line and the 12 rib posteriorly. Liver dullness extends 2.5 cm. below the costal margin. On auscultation the upper part of the right chest elicits a noisy vesicular murmur with a mild tubular sound peculiarly dissociated from the vesicular murmur, i.e., delayed. Over the lower right chest a faint vesicular sound is heard and both breath and voice sounds are distinctly tubular. The coin sound could not be demonstrated. Rales are totally absent. The left chest shows slight exaggeration of the breath sounds.

Let us digress momentarily to consider briefly some of the physical findings. How do we account for the diminished shallowness of the rib interspaces and the widening of the intercostal spaces of the right side? A distinctly increased intrathoracic pressure would, no doubt, produce these changes. But the fact that there was a vesicular murmur and expansion, though somewhat limited, of the right chest, indicates little, if any, positive intrathoracic pressure. Because the liver margin was slightly depressed would lead one to suspect increased intrathoracic pressure. But fluoroscopic observation and x-ray plates show the diaphragm of the right side performing about a normal excursion and slight expansion of an incompletely collapsed lung. And besides the subjective symptoms were so mild that

one would hardly suspect chest pathology. It is my opinion that the elevation and separation of the ribs on the right side was due to the advantage given the levatores costarum by the obliteration of the normal negative pressure of the right thoracic cavity, and the soft tissues being put on a slight stretch accounts for the diminished shallowness of the interspaces. By what mechanism the liver was made to extend below the costal margin, I am unable to explain.

The x-ray report by Dr. H. C. Kariher, August 30, 1920, follows:

Two plates were taken to show the difference in the position of the lung on inspiration and expiration.

1. The plate taken on expiration showed the lung at its greatest stage of collapse.

The outer border of the right lung formed a line running from the lower border of the 1st costal cartilage extending outward and downward in the nipple line to the sixth rib anteriorly.

The border of the lung was smooth and showed no adhesive bands to the parietal pleura.

There was no fluid in the pleural cavity, the entire cavity being filled with air.

2. The plate taken on inspiration showed the position of the lung expanded to its limited capacity.

The outer border of the lung in this plate extended from the same point at the top, there being no expansion of the upper lobe into the apex of the pleural cavity. The middle and lower lobes showed considerable expansion, filling the pleural cavity from the border of the fourth to the lower border of the eighth rib anteriorly.

This left a space, above fourth rib to apex and below eighth rib to angle of diaphragm, filled with air.

3. In the plate showing expiration the heart was shifted to the left about one inch.

4. In the plate showing inspiration the heart was in the normal position, having moved about one inch to the right from its position in the other plate.

5. The diaphragm on the right side was one inch higher than on left on both inspiration and expiration.

6. The ribs on the right side were greatly elevated, extending from the spine in an upward direction, while the ribs on the normal side left the spine in a downward direction.

Throughout the course of observation there was no increase in the temperature, and the pulse was nearly always below 70. At the first examination the temperature was 97.5 and the pulse 58.

On Oct. 31, 1920, examination showed complete expansion of the right lung with increase in the voice and breath sounds over the right apex posterior, and a temperature of 99.2 and pulse of 80.

The most interesting phase of this case is the

basic cause of the pneumothorax and the elusiveness of the symptom. The examination of October, 1920, gave me the impression that tuberculous disease of the right upper lobe was the determining factor. A tuberculin skin test at that time was negative. The patient has been steadily employed in a business office since the last examination and reports a state of perfect health.

Treatment of pneumothorax varies with the conditions to be met. In the acute form with threatening symptoms, a hypodermic of morphin may give considerable relief. If the dyspnea persists, a little air should be aspirated. It would appear from the conditions to be met that it is a mistake to remove a large amount of the air because this tends to open the aperture in the lung by allowing the damaged organ to expand.

Kahn reports a case of spontaneous or idiopathic pneumothorax in the *Journal A. M. A.*, April 14, 1923, which showed little or no absorption of air seven weeks after the onset. He aspirated air to the point of -1.5 Hg. monometer reading with prompt restoration of lung function. He cites one other similar case reported by Kilgore to the San Francisco County Medical Society, Sept. 4, 1917.

Open wounds of the chest wall should be closed so that the air in the pleural cavity may be absorbed and thus allow expansion of the lung. If infection is manifest, it is to be taken into account. However, a patent opening in the chest wall per se is not dangerous, contrary to the opinions expressed by Graham and Bell a few years ago. My first experience with a wide open pneumothorax occurred in 1916. In this case the aperture in the lower left chest wall was large enough to admit my hand. The patient made an uneventful recovery. Pneumothorax or seropneumothorax in tuberculosis in most cases does not call for surgical interference. If pus is present in these cases, free drainage is required as in ordinary empyema. The same is true of pyopneumothorax following chest wounds.

Therapeutic pneumothorax: In this procedure a lung is collapsed by gas or air for therapeutic purposes. This measure was employed by Farlanini in 1822 in the treatment of pulmonary tuberculosis and it was popularized in our own time by Murphy and Brawer. This procedure fell into more or less disrepute for a time but in

very recent years it has been employed with increasing satisfaction.

Formerly nitrogen was employed as the collapsing agent, but it has been found that after nitrogen has been introduced into the pleural cavity it is only a question of hours until enough oxygen has mixed with it so that the mixture approximates the composition of air. Air, properly warmed and filtered, is the agent most commonly employed at the present time.

Induced pneumothorax may be employed with benefit in the following conditions: 1. Pulmonary tuberculosis of the adult hilus type. 2. Apical cavity with less certainty of benefit. 3. Pulmonary hemorrhage. 4. Lung abscess. 5. Fractured ribs. The contra-indications of this procedure are pretty well established. They are: 1. Cardiac disease, such as aortic disease of any kind, Mitral stenosis, pericarditis, and well marked myocarditis. 2. Tuberculous disease of the opposite lung when the signs extend below the 2nd rib. 3. Tuberculous peritonitis. 4. Tuberculosis of the larynx or of the kidney. 5. Metabolic disease as diabetes and Addison's disease.

This procedure is not without its technical difficulties and complications. At the time of the operation there may occur shock, embolism, heart failure, lung puncture, or hemorrhage. During the course of the treatment the following complications may arise: 1. Pleural effusion, which is less common than formerly, due, perhaps, to the fact that air is more generally used instead of nitrogen, and is carefully watched as to temperature and introduced under less pressure. 2. Activity in the other lung may be lighted up. 3. Suprevention of tuberculous peritonitis. 4. Gangrene of the lung.

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DISCUSSION

DR. J. S. MASON, Urbana: I believe you who have followed the lecture on pneumothorax will agree with me that the paper fully covers the subject. I think if you get what Dr. Appelle has given us today we have practically all the points of interest on the subject of spontaneous pneumothorax.

It will be very interesting to me to know just what happened to this boy when he turned over suddenly in bed and why such a thing happened. In looking through the literature for the cases of spontaneous pneumothorax, you will find various reasons given. They tell us that perhaps some violent strain will break the lung tissue, that this lung tissue broken permits the escape of air to the surface of the lungs where a

bleb forms. This bleb may last indefinitely, but some day, when the patient is unaware of anything the matter, this bleb, covered by the serous covering, gives way and the patient has a beginning pneumothorax. He knows of no reason why he should have had any attack at all.

In the case of individual reported by the doctor it is questionable what happened. It is very rare indeed that sufficient force can be exerted by an individual that the strain upon the lung will rupture the serous covering.

I wish to report a case which comes along this line. In March of 1921 I was called to the University Hospital to see a case of a student. He gave the history of having been at his desk studying when he suddenly felt sharp pains in his chest. He went to the health office and when he reached the health office he was dyspneic and in extreme pain. The doctor had great fear he was going to collapse. He made a sufficient examination to see that there did not seem to be any lung functioning on the left side. He sent him to the hospital. When I reached the hospital, the patient was comfortable, and I might have easily overloaded pneumothorax, but for the promptings of Dr. Beard who saw him in the stage of agony.

We looked him over and found he had practically no functioning lung on his left side and that his apex beat was to the right of the sternum. There was no sound of rales. The breath sounds were eliminated. The lack of breath sounds is important. This patient had no breath sounds on that side. No signs of murmur or vesicular breathing.

Unluckily for us, this patient went home the next day. During the summer he went to Canada and worked in the fields of Canada and came back next fall perfectly well. He is now well.

The statement made that perhaps ninety per cent. of the cases of spontaneous pneumothorax are tubercular in origin is probably true, but it is not true so far as my own observation goes.

I think you ought to make mention of this fact, that perhaps one way in which violent exercise will produce pneumothorax is in the presence of adhesions—adhesions to the parietal wall attached to the surface of the lung. A violent effort may tear the lung tissue. That may have been the thing that happened in the boy's case that was cited to us. It is difficult to get pathological findings in those cases. Our literature does not tell us very much about it. It is probably tissue scar in the lung and violent exercise may be the reason why we will have an acute spontaneous pneumothorax in such a case.

DR. O. O. STANLEY, Decatur: Dr. Appelle's paper and the case he cites are extremely interesting. To the observer of spontaneous pneumothorax of unknown etiology there is opened up a wide field of speculation. In the literature are described numerous cases of the type under discussion. Immediate causes to which this condition may be ascribed are so trivial as to arouse curiosity as to the condition of a lung which will allow so easily a perforation of its parenchyma and the visceral pleura.

A hearty laugh, raising the arms to hang up clothes, lifting objects whether of weight of consequence or not, the sudden turning in bed, even sitting at rest, ascending or descending stairs, are factors of such minor import as to demand an explanation of the pathology in the lung and pleura which careful examination previous to the injury and more careful examination after recovery may fail to clarify.

I find no account of an autopsy on any case of spontaneous pneumothorax. The bursting of an emphysematous bleb seems the most likely explanation of such cases. "How close such a bleb may be to a small tubercle is an interesting speculation."

It would be more likely to occur in a tuberculous patient too early for clinical diagnosis because the pleura would not yet have acquired what may be regarded as the protective thickening of the later stages. Such a potential condition might easily escape detection even though the most careful physical and x-ray examination were made.

The fact that the patient did not react to tuberculin would not be conclusive evidence that he had no tuberculosis. I am convinced that if tubercles first developed peripherally rather than centrally this condition would be much more prevalent.

Recent work by Chevalier Jackson and Manges on the demonstration of production of localized spots of emphysema beyond foreign bodies lodged in a bronchus or bronchiole is pertinent. Such obstructions, whether from without or endogenous, as plugs of mucus or pus, act as valves to allow air to enter the limited air space beyond and produce emphysema of that space. Protracted to any length of time such lung tissue would become so weakened as to form an emphysematous bleb which may burst to produce pneumothorax.

DR. APPELLE (Closing): Further discussion seems unnecessary.

THE MEDICAL EDITOR'S ATTITUDE TOWARD THE PRESENT TREND OF EVENTS*

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It may be questioned whether the present trend of events differs in essentials from the trend of events at almost any time in the last few hundred years and, crossing the chasm of the middle ages, during the last three hundred years B. C. It may be bromidic and more or less trite to declare that we (not we as a people, as a nation, but we as a profession), live in a period of unrest, disturbed within our ranks and beset from without. We may feel this state of affairs keenly, but the student of medical history knows that,

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even here, the conclusion of the Preacher holds good, that there is nothing new under the sun. As far back as the days of ancient Babylon, and ever since then, physicians have been the ready target of hostile shafts of criticisms, witticisms, sneers, outright condemnation and good-natured banter.

It is a peculiar truism that, now as in times gone, school medicine, the supposed or alleged medical authority, stands more or less unmoved under these varied attacks, as it always had done, condemning that wholeheartedly which does not originate from within its own ranks or from which it had not issued its sacrosanct approval. As, centuries ago, innovations, improvements, condemnations of vicious practices were resisted by school medicine with all the power that the holder of authority could muster, so now it seems to be the easiest way to condemn everything that is not in agreement with the tenets of the so-called regular school.

It always has been hazardous to hold and express opinions at variance with those of "authority." Bodington, of England, paid dearly for his assertion that pulmonary consumption could be treated successfully by rest, proper diet and fresh air. Hahnemann and the Eclectics, who rebelled against the brutal bleeding, puking and purging that was insisted upon by school medicine far into the nineteenth century, were ostracized, condemned, vituperated, designated as quacks, charlatans, knaves, even as the innovators today are. It is a peculiar thing that, as late as 1845, one of the chosen spokesmen of the old medical practice publicly could declare that "medical science does not need, nor is it susceptible to, further improvement or reform." Such smug and fatuous self-complacency surely might cause one to despair, if we did not have the assurance that new things will prevail if they are good, despite all attempts of reactionaries to ignore or to destroy them.

THE PHYSICIAN AND THE PEOPLE

The last generation has witnessed a decided modification in the popular attitude toward the medical profession. No longer are the dicta of the medical man, his diagnoses (unexplained) and his orders accepted without comment, but there is a very active and energetic tendency to advance various and insistent whys to the physician's opinions. It seems as though the old-time, if imaginary, infallibility of "the doctor" had come to be doubted seriously and that people in-

sist upon using their own intelligence and prefer actually to consult with their medical attendant rather than request his orders. The reasons for this are complicated and are partly connected with an active propaganda directed against the medical profession and partly, undoubtedly, due to a misunderstanding of a change in the attitude of physicians themselves who have learned to admit that there are things that they don't know and against which they are powerless.

As a matter of fact, there has never been manifested so much honesty in medical research as there is now. We have come to realize and to admit our limitations. We have learned to grant that there are certain things which, under present conditions, we can not know and can not explain. It is readily to be understood that such an evidence of honesty is taken by some to mean an admission of ignorance, while others accept it as an additional claim to confidence.

There are too many factors at the present time disturbing the even tenor of our ways that we could discuss them and investigate them in great detail. There truly is an unusual degree of unrest, of dissatisfaction with existing things, of sincere and emphatic desire for something better. Strangely enough, we can not in this instance blame things on the War; for, many of these disturbing elements had their inception long before it and are as much signs of the times as the War itself was.

MENTAL THERAPY

Almost a generation has passed since one of the greatest antagonists of the medical profession arose in the shape of Christian Science which, indeed, was not new by any means, but waged war with an intensity and virulence that had never before been attempted in this direction. To be sure, Mesmer, almost a hundred years ago, had utilized certain phenomena, but dimly understood, and had employed mental healing to a degree that was striking. In the seventies and eighties of the last century, various religious institutions of faith healing had been maintained here and there. I remember one in Switzerland where the faithful were treated by fasting and prayer and where the success of the treatment was held to stand in direct proportion to the faith manifested. Mrs. Eddy's success was due, in part, to the fact that she appealed to the educated and that she cleverly mixed the mystical and the religious factors with a bland denial

of material imperfections. In her wordy but unmeaning disquisitions, she flattered those who, while fairly well educated, still failed to have acquired a mental balance. If they could imagine that they understood Mrs. Eddy's verbose discourses, they, naturally, believed themselves wonderfully clever and accordingly persuaded themselves that they derived benefit. Mental healing, we fully understand, has a distinct place in the therapeutic efforts of the physician; and, here as elsewhere, it would have been better to offer less antagonism to the enemy from without, to admit and accept this potent therapeutic force, to make it our own deliberately rather than to oppose and decry it, to declare it vicious—only to be obliged, in the recent past, to admit its basic justice, even though it will never be possible to accept all the absurd frills and clouds with which Christian Science has surrounded it.

HOMEOPATHS AND ECLECTICS

We already referred to the energetic and partly successful reaction against the excessive bleeding, puking and purging to which the unfortunate sick of a hundred years ago were subjected and which were antagonized so fiercely by the Homeopathic and Eclectic schools. In course of time, as was inevitable, that which was good in the tenets of these innovators had to be accepted. The idea of small, frequently repeated active remedies, of single remedies instead of cumbersome mixtures, the employment of drugs that do no harm in reasonable doses, the greater discrimination in the employment of possibly injurious remedies and even some very excellent remedies that these two schools introduced to us—all these things we have to acknowledge, and it has come about that Homeopathic and Eclectic physicians are accepted as reputable practitioners and treated as equals by members of the regular medical profession, providing only that they do not insist upon their sectarian tenets, but content themselves with practicing medicine purely for the benefit of the patient.

MECHANOTHERAPY

Then came the tendency to employ mechanical methods of treatment. The hydropathic school is fairly old, so old, in fact, that even the Nestors of our profession can hardly remember its infancy. Closely associated with it was the Swedish massage to which were added other forms of mechanotherapy and out of which grew, in more

recent times, the teachings of the osteopathic and the chiropractic schools. I frankly and willingly apologize to the former for naming the two schools together. In many ways, they undoubtedly do form one group. Still, we all know that the osteopathic school has developed to a considerable degree and its graduates now are obliged to undergo far more intensive and thorough courses of training and of study than was the case originally. I see the time coming when the osteopathic school will develop still further and merge in the larger medical profession, as had been the case with the Homeopathic and the Eclectic schools.

It is somewhat different with the chiropractors whose teachings are based purely on assertion for which there exists no foundation in normal or pathologic physiology. Indeed, the founder of that school was so frankly and irrevocably opposed to study, to the acquirement of knowledge, that his case is all but hopeless.

The Chiropractic school has two powerful weapons which it utilizes to the fullest possible extent and with a degree of success that is startling and may well shake our confidence in the inherent good sense of man. These two weapons are, first, blatant assertion and, second, clever and persistent advertising. According to Chiropractic "teachings," all diseases are due to the fact that one or another of the nerves leaving the spinal canal are impinged upon. It does not matter what ails you, whether it be an infectious disease, diphtheria, pneumonia, influenza, typhoid fever, yellow fever, small pox, or lues, the trouble is caused by an impinged nerve and a spinal adjustment will relieve it. Systemic diseases also yield to the marvelous touch of the spinal adjustor. The more serious and hopeless the disease, the better the Chiropractor likes it and the more loudly he claims a success. Even the wart on your nose and the corn on your foot, the denuded state of your cranium and the synovitis commonly known as housemaid's knee, they all are referred to impinged nerves and all are treated by adjustment.

It is hardly thinkable that the Chiropractors could impress people with their deplorable nonsense, if they did not advertise so cleverly, claim cures so arrogantly and vituperate the medical profession so viciously. Strangely enough, they have some protagonists who should know better and of whose intellectual qualifications we must

entertain serious doubts when we hear their spoutings. On the occasion of the last Palmer School of Chiropractic Lyceum which was held in Davenport, Iowa, last June, I think, a well-known Chicago criminal lawyer orated eloquently and vociferously concerning the short-comings of the medical profession and the great merits of Chiropractic. Some of you may have honored me by reading my editorial in regard to this matter in the October issue of *Clinical Medicine*. I took for a text Proverbs 26:5, "Answer a fool according to his folly." Mr. Darrow is particularly incensed, as are, indeed, all irregulars from Christian Science down, at the legal necessity that exists in most states of the Union for passing an examination before you offer your services as a healer of the sick. This legal restriction, unfortunately, affects those most severely whose training has enabled them most efficiently to deal with sick people. It is far less searching, the examinations are far more easy and the license boards less stringent in their demands in the case of irregular cults. Even so, the gentleman whom I referred to just now and all defenders of the irregular cults declaim loudly in favor of so-called medical liberty and against laws that restrict the practice of healing. Yet, these people would, undoubtedly, resent fiercely a provision through which anybody were permitted to run a steam engine or a street car without having passed a searching examination demonstrating his fitness for the work. That legal gentleman referred to would probably refuse to admit anybody to the practice of law without having passed an examination and, undoubtedly, he declaims just as loudly against shyster lawyers as he does against regular physicians. Only, in the two cases, the advantages lie in different directions.

We need hardly talk about naprapaths, naturopaths, nor even need we mention Rogers' autohemic therapy, and Abrams' reduction of all human ailments to three, namely, cancer, tuberculosis and bovine syphilis. What is good in all of these systems of pretended healing is known to us. The rest is chaff.

SOME GOOD IN ALL

There is, however, this to be considered, especially from the viewpoint of the medical editor to whom the practitioners look for expressions of opinion. It can not be denied that, in all these systems of healing by mechanotherapy, there is

some good and, in many cases, the means that may be employed to advantage are not fully and sufficiently understood by physicians. Instead of calling quack and charlatan and knave and letting it go at that, instead of demanding a closed door in favor of the regular medical profession, instead of laying ourselves open to the reproach of maintaining a dog-in-the-manger attitude, it would be far more useful for us as a profession to investigate impartially, sincerely and honestly every system of healing that is proposed in good earnest, to determine its possibilities and its limitations. In so far as it possesses merit, any method can justly and properly be adopted by the medical profession and it should be so adopted. Ninety-nine out of a hundred sick people would rather receive a spinal adjustment in the few cases where it is required, or an osteopathic treatment, at the hands of their regular medical attendant, than resort to a chiropractor or an osteopath.

It would be the part of wisdom to employ all means that possess good in those cases in which they are suitable; but, above all, physicians should be familiar with methods offered or proclaimed as good by the cults whether they are useful or not. I repeat, they should be familiar with them and should not discard them without adequate examination. Some of us remember the early days of electrotherapy concerning which Doctor Rockwell has recently written so entertainingly. I think it was Doctor Loomis who advised him to leave electricity where it belonged, namely, in the hands of quacks and of old women. Another of the leading practitioners of New York told him that no physician in good standing could afford to use such charlatan methods. If Doctor Loomis and his contemporaries could come back now, they would be astonished at the development of electrotherapy in its various modalities. Yet, at one time, electrotherapists were considered as quacks.

FEDERAL REGULATION

For some years, there has been a tendency with respect to the medical profession as in many other activities in civil life, to regulate and order activities from a central national office in Washington. The provisions of the Narcotic Law, those of the Volstead Act, in so far as both affect physicians, are but two instances of this tendency to nationalize the medical profession and to make

its members subservient to the bureaucrats in Washington and their understrappers in the various state departments. Congress has even arrogated to itself the decision as to how much of a certain drug a physician may prescribe to any patient in the course of one week. The notorious Sheppard-Towner Act is another instance illustrating this tendency, and the attempt to regulate the work of physicians, to card-index and to supervise the patients, is unmistakable. State medicine, or nationalized medicine, seems to be on the way and threatens to deal as evilly with the medical profession in our country as it has done in Germany and in England. In addition to State Medicine, there are various lay agencies of which the Red Cross may be designed as the least injurious. All of them have invaded the physician's territory and have not only rendered his work more difficult but have also interfered greatly with his opportunities for earning a livelihood. As far as I can find, the medical societies in New York and in Illinois, partly also those in Massachusetts, have been most active in fighting against these tendencies in nationalization and of central control. It is to be hoped that we can influence the individual members of the medical profession sufficiently to realize the danger that approaches them and to convince their patients and their friends of the gravity of the problem.

MISS KELLER'S INVESTIGATION

Despite Robert Burns' fervent wish that we might be able to see ourselves as others see us, its consummation is not always pleasant, however good it may be for our souls. This is particularly evident on reading a report of the laity's idea of the physician, which Miss Buda Carroll Keller presented to the last meeting of the Illinois State Medical Society and which was published in the ILLINOIS MEDICAL JOURNAL for July. This report discovers to us what 6772 persons, in and out of Chicago, actually think of the medical profession and why they patronize other healing agencies. It is good for all of us to read this report and to read it again. We, as editors, can influence medical thought to a degree. There are several wholesome lessons contained in this report and we should take it to heart.

TOO FEW DOCTORS?

Another one of the problems confronting the medical profession is the alleged dearth of doctors

in certain districts and the supposed disappearance of the family doctor. As I have pointed out quite recently, it can hardly be said that there are too few doctors to serve the needs of the medical profession. The trouble is rather with their distribution. After having spent from six to ten years in preparing for the practice of medicine, a young graduate naturally hesitates to go to the country to treat little Johnny for his snuffles and little Sally for her tummyache. He wants to do big things, enter a specialty and take in big fees. Yet, the people in the country are entitled to the services of a physician and it should be made possible for them to procure one. The experiment recently made in Sharon, Kans., where a physician was employed by the community at a stated minimum salary, is interesting. It, or a modification of it, may possibly solve many of the difficulties of distribution.

The family physician seems to have been overshadowed by the splendors of the specialist and seems to have lost ground. You are familiar with the assertion of Sir James Mackenzie, that it is the general practitioner, the family doctor, on whom medical science and medical progress depend for much information in the study of disease, that is essential for its correct and just appreciation. There are many people who think as Sir James does, and I believe that the many disadvantages of overspecialization and the extreme and high cost of medical attendance which, as a first reaction, have driven many people to the cultists, will cause the pendulum to swing back and to restore the general practitioner to his dignified and essential position as a splendid factor of medical practice. Without medical practice, mind you, medical science would have no reason for existence. Medical science is a beautiful thing, but it is useless unless its lessons can be applied in practice. It goes without saying that the numerous trials and tribulations, the constant difficulties and disappointments that the physician encounters can be overcome by a proper change of heart, change of methods, change of attitude. That physician who sees in his patient a human being that is sick, and not a collection of organs with perverted function, will be more successful because he takes into consideration the mental factor, he deals with his patient as a person endowed with mind and he influences that mind. Treating a patient merely as a bit of machinery, or as one hardly treats a sick dog

or horse, may be successful up to a certain point; but, the practitioner who follows that plan never will have warm friends in his patients.

Further, it is time for physicians to give up their aloofness from everyday affairs, their splendid isolation, their exclusive preoccupation with matters immediately connected with their work. Physicians are not only medical practitioners; they are, incidentally, citizens, fathers of families, just folks. If we meet our neighbors on a friendly, humane and human footing, if we share in their interests and explain to them the inevitable questions that they will submit to us (shop talk, if you will, but still of interest to them), we shall contribute greatly to a much needed popular education in matters medical. Various great metropolitan papers are attempting to do that, and the physicians attached to the editorial staffs of these papers accomplish much good. Popular education should go much further and reach everybody that can be reached.

Another thing, it is about time that physicians amongst themselves assumed a more dignified attitude and give up their little jealousies, their little back-bitings, their little picayune differences of opinion. If there is no unanimity in the medical profession, how can we expect the public to respect us? This is just a pointer. A reproach is constantly being made that doctors fight amongst each other more than do even musicians.

As medical editors, we wield an influence that is almost unlimited in its possibilities. This influence can be exerted for good or for evil. It rests with us which it shall be. It is for us to inform ourselves honestly and fully, not only of the actual medical and professional problems that confront our colleagues in active practice but also of the various factors that touch medical practice and, no less, those questions of public, social and family life in which physicians should be interested and play a leading role. It is our duty to investigate everything that can be of interest to those who look to us for advice and guidance and to express our advice in such a manner that its honesty and disinterestedness, its excellence for the public and the professional welfare can not be a matter of doubt. It is a mighty good plan to investigate honestly and impartially everything that is offered for the good of the sick. Having done so, only that which is actually good and meritorious should be accepted.

THE DUCTLESS GLANDS IN MENTAL DEFICIENCY OF CHILDREN*

W. L. SHANK, B.S., M.D.

SHABBONA, ILL.

Some physiologist has aptly said that, "Resistance to disease is a physiological process. Physiology produces immunity by preventing a disease from taking hold of the body; likewise, to overcome the effects of a disease after it has invaded the body, is a physiological process, and the elements for the immunity, or the recovery, are found in the blood stream."

In studying the subject of mental deficiency of children there are many factors to be taken into consideration. The medical diagnosis of a backward child requires a careful investigation of all the conditions, whether glandular or otherwise, which may prevent the development of the mind. And to attribute all cases of retarded mentality to deficient activity of the ductless glands would be to err as gravely on the one hand as it would be to disregard them altogether on the other. In fact it would seem that the safe way to arrive at a conclusion would be first to exclude all conditions that may be present relative to physical defects that may not be of glandular origin, but if so found, treat them first, for it is imperative that all morbid conditions be remedied before organotherapy will be useful.

The nasopharyngeal cavity should be carefully examined for adenoids and enlarged tonsils, for they not only interfere with respiration but they also compromise the hearing and in this manner one of the most important avenues through which the brain receives impressions is interfered with. Excessive myopia, errors of refraction, any form of defective vision is also conducive to the failure of impression reaching the brain. Insufficient food is a well known and prominent cause of backwardness. Organotherapy without nutritious food in half starved children will avail nothing and in some cases harm has been done especially where thyroid has been given freely.

Environment is a factor to be considered, for it may retard, or develop, the psychic functions of the brain according to the impressions received in the company of other children, in the school room and the efforts on the part of parents to develop understanding. All the organs of special sense, the nervous system, the child's

*Read before DeKalb County Medical Society, October 18, 1923.

environment, nutrition and general state of health, with special reference to anemia, tuberculosis and hereditary syphilis should be inquired into before the blame of the child's defects, whatever they may be, is laid at the door of the ductless glands.

The result of the investigations of the Russell Sage Foundation in thirty-one American cities showing that over 20 per cent. of the children in the schools of those cities belonged to the retarded class created grave concern; 17 per cent. of subjects in whom retardation was due to late entrance was not considered in this estimation, and when we realize that approximately one fifth of the school children in the United States are more or less feeble-minded it is a cause for serious attention and grave apprehension.

These figures were established by the Binet and Simon method of identifying backward children and has been the means, in many cities, of placing the child under a supervisor in a special class where studies are carefully adjusted to the degree of mentality established by the system in each case. The child, thus saved the brutalities that were formerly meted out to him for defective work and slow progress, attributed to laziness and stupidity, often surprises his teacher by the progress shown when aided and encouraged, and working within the precincts of his abilities; particularly is this true when, at the same time, he is treated properly by organotherapy.

Another very striking situation emphasizing the serious attention that is being given to school children, from the standpoint of organotherapy, is a letter written about six weeks ago by the Health Commissioner of Chicago to the Superintendent of Schools calling his attention to some 200,000 cases of goiter among the school children, between the ages of 1 and 16, and asked for a conference regarding treatment.

The report of the investigations of Marine and Kimball on the question of "Simple Preventable Goiter," published editorially in the *Journal A.M.A.*, June 9, 1923, invites serious consideration. The report states that in the course of three years nearly 10,000 girls, in Akron, Ohio, were examined. Of this number, in the first examination, 56 per cent. were found to have simple goiter.

A comprehensive conception of the role of the ductless glands was established when the physiologist substantiated the fact that they empty

their secretions directly into the blood stream or lymph channels, thereby furnishing the elements in the process of immunity, or the recovery, from disease. However, of the various glands of internal secretion in the human body there are only a few that are well known and that, so far, have been proved to have practically unquestioned therapeutic value; of these we have to deal with only four, viz: the adrenals, pituitary, thymus and the thyroid.

Without going into details exhibited by many physiologists, the first conclusion is, "that the secretion of the adrenals has a marked affinity for oxygen, and inevitably reaches the air cells through the inferior vena cava directly on the right side and by way of the renal vein on the left; that on reaching the air cells the adrenal secretion absorbs oxygen and becomes a constituent of the hemoglobin and of the red corpuscles, and the oxygen-laden adrenal secretion is distributed by the red corpuscles to all parts of the body as an oxydizing agent which sustains tissue oxydation and metabolism."

Sajous shows that the pituitary "sends nerve fibres to the walls of the third ventricle and thence to the pontobulbar region and spinal cord; that the pituitary, like the adrenals, influences general metabolism and nutrition." It also influences blood pressure, and gives rise to glycosuria. His final conclusion is, "that the pituitary is connected with the adrenals by direct nerve paths through the sympathetic system and the great splanchnic; that it thus governs, through the adrenals, general oxydation, metabolism and nutrition." Thus he shows that the nerve energy supplied by the pituitary to the adrenals and thyroid accelerates the action of these glands, and further on he makes the plain statement that, "as I view it, therefore, pituitary preparations merely afford an additional and efficacious way of administering adrenal preparations."

The thymus is the ground substance of the nerve cells; for it is generally admitted that the function of the thymus is to supply an excess of organic phosphorous during the growth of the body, particularly while the development of the osseous and nervous system demanded such a reserve. This belief is sustained by the fact that certain diseases of children, especially marasmus, rachitis and trophic disorders of the

brain and nervous system, are due, in part, to functions of the thymus.

And now the thyroid, which is one of the most important, and a most wonderful organ, of the body. As Harrower puts it, "because it is connected directly or indirectly in the work of practically every one of the series of ductless glands, it has been aptly called the 'keystone of the endocrine arch.'" The thyroid hormone—organic iodine—furnishes the power to the body to resist disease, and Sajous and Harrower were among the earliest to make this claim. It is the most important of the detoxicating agencies in the body, and for this reason it is sensitive to toxemias and infections. The chief causes of thyroid insufficiency are found in all the infectious diseases, tuberculosis, syphilis, typhoid, diphtheria, influenza and many other acute and chronic focal infections.

The thyroid is the director of metabolism. It governs growth and development, both physical and mental. It governs heat regulation, muscular efficiency, peristalsis, elimination of nitrogen in the urinary excretions, the different features of mental capacity, nutrition of the skin, as well as development of features, form and bodily functions generally. In fact, the statement has been made that the pituitary, adrenals and the thyroid maintain not only the nutritional process of the body, oxydation and metabolism but simultaneously its defensive process, and upon the integrity of these connected functions—the pancreas is here included—depends the health of the whole; and were it not for the auto-protective bodies produced by the ductless glands for the purpose of combating toxemias and other prevalent poisons the human system could not exist upon this earth.

Barr has said, "The backward child is not a mental defective but a mental invalid, so to speak, possessed of all his powers, and has the same chance of attaining mental vigor that any sickly child has of being brought to normal health through proper treatment."

I have followed Sajous and Englebach in the cases I have treated and have had generally good results. I have had valuable suggestions from Harrower, and the mistakes I have made I think were due mostly to mistaken diagnosis. Sajous suggests that it is well to bear in mind that, in many instances, the signs of deficiency in one gland are not always easily identified, and that

symptoms-complex of several glands may appear. If you have a fat, dumpy child, with sub-normal temperature, fat pads over the clavicles and in the axillae, cold extremities, delayed dentition, late in learning to walk and talk, particularly susceptible to contagious diseases, the face round with a dull stupid look, the forehead low, the cheeks flabby, the lips thick, mouth open and drooling with a protrusion of the tongue, the fontanels remaining open longer than normal, the teeth brittle and carious, short and irregular, it may be a case of hypothyroidia to say the very least. It may be a case of cretinism or even myxedema of childhood. Retarded mentality is the invariable rule and failing to make grades in school work they become "repeaters."

But this same case may be one of hypopituitarism. If so, there will be infantile genital organs; and, if a boy, he will have a feminine build with large hips. The hands are pudgy and the fingers tapering; the span measurement is greater than the measurement from the pubic bone to the soles of the feet. These children are dull, apathetic, backward and easily discouraged. They lack both self-reliance and self-control. They are heavy eaters and particularly fond of sweets. In the girl the menses appear late or not at all. If they menstruate at all the flow is scanty and irregular. The breasts often become very large due to reduced gonad activity.

Speaking of "repeaters," the superintendent of schools for the state of California estimates that the "repeaters" cost that state \$7,000,000 a year. If that condition prevails in California it prevails in every state. And now, for the sake of argument, let us suppose that this estimation is correct, and that this condition is generally universal. It is estimated that 60 per cent. of these mental invalids can be helped, with treatment for physical defects, and organotherapy properly applied. Assuming the statements in these premises to be correct the conclusion is inevitable and beyond question. If the economic side of our school system could be regulated so as to function along these lines there could be a vast saving to the tax payers of the state saying nothing of our gift to the future generation of better, healthier and far more intelligent boys and girls.

Treatment in these cases is best illustrated by case records.

January 18, 1922, Miss V. P., age 19 years, 5 feet 3 inches, weight 198½ pounds. Chief complaint, obesity. Had mumps at 6 weeks of age; whooping-cough at 8 years; gained steadily in weight since then. Chickenpox at 9; measles at 10; tonsils removed at 11; pneumonia at 15. Has had dull frontal headache almost constantly for one and a half years. Had dull pain in right side, severe at times, for one year. Appendicitis was suggested. Sleep not refreshing. Badly constipated for past six months. Senior in high school, but work is a task. Falls asleep while studying. Failed to pass 7th grade. Menstruated at fourteen, but not freely. "Pepless" for two years, and gaining in weight. Canine teeth never came in and spacing between others of one-fourth of an inch. Sp. gr. of urine 1034 with sugar and indican. Hands stubby and fingers tapering. Perspires but little. She was kept on 1 gr. of thyroid, t. i. d. until March 4th, at which time she weighed 186 pounds and seemed to remain at that weight. She was then given 1 gr. of pituitary, in addition to the thyroid, until June 17th, when she weighed 170; an entirely different girl, and feeling fine.

I am sorry that this report can not end here. I have selected this case to bring out the point that if it was one of hypo-thyroidia alone, the benefit she received by administering thyroid would likely have been more or less permanent. But if hypo-pituitarism is a feature, which it is in this case, she can be benefited for a time, but not cured. The point I

want to make is this: that thyroid substance is being administered indiscriminately without knowledge of symptoms-complex of other glands that enter into the case. It is a sort of a hit and miss method; if it hits, all well and good, but if it misses, a misunderstanding is created and criticism is unjustly directed toward organotherapy.

In August, 1922, this girl entered the training school in the Masonic Hospital in Chicago. During the winter she began to gain in weight. In July of this year she reported to me that she had taken on all her former weight and had also developed a very ugly case of acne of the face. That the old pain in her right side had returned and that she was to be operated on for chronic appendicitis. I immediately put a stop to that operation, discarded the Bland's pill and arsenic that had been given her, and put her back on pituitary and thyroid, with cascara sagrada, and in three weeks' time her face cleared up, her pain was gone and she was losing flesh.

I am not saying that she may not yet have to be operated on for appendicitis, because the seat of fermentation producing acne is in the secum and the appendix is in danger of becoming infected to such an extent that an operation might be necessary. I had a report from her under date of October 12th saying that she weighed 186 pounds and had felt fine until the day before when she felt the old pain in her side, which extended to the back, with nausea, weakness and a temperature of 101; that she had taken the cascara sagrada, followed with a saline with good results and was feeling much better. I

put her on 2 grs. of pituitary, ½ gr. of thyroid, t. i. d., with cascara sagrada and will withhold my consent for an operation until we see what her condition is when she is again reduced to 170 pounds or less.

Englebach and Tierney, of St. Louis, contributed sixteen sections on the pituitary to Tice's System of Medicine. Section number seven of that series cites three cases of hypopituitarism, "with marked pain in the right iliac region." All three cases had been operated on for appendicitis, and the right ovary had been removed from two of them. In all three cases the pain was not only not relieved but became much worse, but was finally relieved with pituitary extract therapy.

I could cite you a number of cases showing a single gland involvement and also a pluriglandular syndrome, but I will refer to only a few.

Baby R., aged about one year, with eczema of the scalp. They tried a half dozen doctors and everything else that they were told to do. She took 1-10th grain of thyroid for six weeks when the eczema disappeared with no return.

December 15, 1921, Baby O., aged one and a half years. Weight at birth 7 pounds. Dentition at 10 months; walked at 13 months; talked very little at 17 months; legs bowed. I gave her 1-10th grain of thyroid with calcium and sodium glycerophosphates. January 7, 1922, the child showed much improvement, at which time I added 1-6 grain of thymus. On March 6 improvement was so marked that they discontinued.

M. J., aged 13. Chief complaint, earache and eczema of the face. Had scarlet fever at the age of one and a half years, and earache dated from that time. Had mumps at 9; chickenpox at 10; whooping cough at 11. Had discharge from right ear until she had influenza in 1920 when both ears broke. Dr. C. E. Smith of DeKalb, Ill., removed her tonsils and she was put on ½ grain adrenal substance, ½ grain of thyroid with iron and strychnine phosphate for about two months when all symptoms cleared up and no return of the trouble.

In conclusion I want to refer briefly to the subject of dementia præcox. This is an apparent digression, but if followed to the end it leads us back to child life. I am not going into the glandular aspect of these subjects any more than to say that the same glands referred to above play an important part in these cases: and my point is this, that when this system of identifying these defectives is put into operation and proper treatment instituted, a goodly number of these unfortunates can be saved from the awful fate that awaits them. This can only

be realized when we study the records of cases in our insane asylums; for it is shown that very few cases respond to treatment after being committed to an asylum. Statistics taken from the records of New York state show that out of 21,070 cases only 21 were cured; and the records of the state of Illinois show that 50 per cent. of the commitments to the asylums is for dementia præcox. The gravity of the harm done by this dread malady can not be over emphasized. It breeds the crank, the irretrievable criminal, the vagrant and the prostitute. However, it is gratifying to know that the widespread efforts that are being made to stem the tide of such misfortune and iniquity is beginning to bear fruit; and if the many phases of this problem continue to be studied diligently and the system of identification be pushed to its utter completion, so that we may more fully familiarize ourselves with the early clinical picture of these cases, and institute both prophylactic and remedial measures, the gloomy prognosis may be replaced by one offering at least some encouragement for the future.

Society Proceedings

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, December 5, 1923

1. Treatment of Acute Empyema. The Technique and the Results obtained by the so-called "Closed Method," Ralph B. Bettman.

Discussion, E. Wyllys Andrews, Julius Hess.

2. Coma, Martin H. Fischer, Cincinnati, Ohio.

Discussion, Henry F. Lewis.

Regular Meeting, December 12, 1923

1. The Nervous Patient and His Struggle for Poise, Meyer Solomon.

Discussion by Wm. S. Sadler and Herman M. Adler.

2. The Mercurochrome Ointment Treatment of Vulvovaginitis, Maurice Dorne and Irving F. Stein.

Discussion by I. A. Abt, A. H. Curtis and T. F. Finnegan.

Regular Meeting, December 19, 1923

1. Factors that Lessen the Recurrence of Inguinal Hernia Following Operation, Leigh F. Watson.

Discussion by Nelson M. Percy.

2. The Treatment of Gonorrheal Endocervicitis by Heat, including the description of a new instrument and a method of inducing heat by means of Diathermy, Vincent J. O'Connor and B. C. Corbus.

Discussion by A. H. Curtis and B. F. Lounsbury.

CHICAGO OPHTHALMOLOGICAL SOCIETY

October 16, 1922.

Vice-President Dr. Frank Brawley in the Chair.

BASAL CELL EPITHELIOMA OF LIDS

Dr. Lowry (for Dr. George F. Suker) reported the case of a man, 46 years old, who six months ago had an ulceration of the upper lid of the right eye, which extended from the inner canthus to one-half inch beyond the outer rim. Rodent ulcer of the eyelid was diagnosed. An exenteration of the orbit was performed to extirpate malignancy. Two pedunculated flaps were brought down from the forehead and attached to the normal conjunctiva. Cicatricial tissue had since made several outer canthotomies necessary. The patient had received some X-ray therapy since the operation. There was no limitation in the ocular movements, no diplopia or reduction in visual acuity; neither was there an involvement of the cornea.

CAVERNOUS HEMANGIOMA OF OPHTHALMIC VEIN

Dr. Cottle (for Dr. George F. Suker) reported the case of a male baby, four weeks old, brought to the hospital 10 days after birth, with a markedly protruded right eye; which showed corneal abscess with threatened perforation. The equator of the eye was beyond the lid margins and pushed somewhat downward. The eye could not be replaced. There was no palpable pulsation, and no audible bruit. Above the eye could be felt a soft, compressible mass, which pushed the eye downward and outward. Because of the absolute loss of function, and potential danger to the other eye, the eye was enucleated.

The diagnosis was that of hemangioma, probably of the cavernous type. The tumor was still present, but had not increased in size since the time of operation. In this case there was a suspicion of a history of trauma. The child was delivered by a midwife. X-ray examination showed no evidence of fracture which might produce a laceration in the orbital region.

Examination of the eye and adnexa showed no evidence of extra- or intrabulbar tumor formation. The soft tissues about the optic nerve had the appearance of loose epibulbar tissue, soaked or infiltrated with blood. The central four-fifths of the expanse of the cornea had suffered what appeared to have been an incompletely perforating ulceration. The lens was in its normal position and what could be seen of the iris did not appear to have been displaced forward, as would be the case had the cornea been perforated.

(To Be Continued)

Marriages

LEWIS T. BAXTER to Miss Esther Bauchet, both of Chicago, November 9.

GATEWOOD to Miss Esther Lydia Harper, both of Chicago, at Los Angeles, November 28.

WILLIAM A. HOFFMAN to Miss Mary Alice

O'Leary, both of Chicago, November 1.

HENRY GORDON JACKSON, Chicago, to Miss Mae Walker Robinson of New York, November 24.

EDWARD HENRY KUPKE, Kenney, Ill., to Miss Anna Marcue of Lemar, Iowa, November 25.

LAWRENCE JAMES LAWSON to Miss Ruth Watson, both of Chicago, December 8.

FELIX H. RENBERG to Miss Hattie Arnstein, both of Chicago, November 27.

Personals

Dr. James H. Hutton of Chicago, gave an address on "The Ductless Glands" with lantern slides, December 20, before the Joliet Association of Commerce.

William A. Hoffman, Chicago, has recently been elected secretary of the Chicago Eye, Ear, Nose and Throat College, to succeed the late John Raymond Hoffman.

Dr. Loyal E. Davis, Chicago, has been granted a professorship in surgery at the University of Chicago Medical School for three years.

A dinner was given at the Hamilton Club, December 5, in honor of Dr. Martin H. Fischer, Cincinnati, who, following the dinner, read a paper before the Chicago Medical Society.

Dr. Emil G. Beck, Chicago, has been awarded a medal by the Radiological Society of North America for his work on radiology.

Dr. Noble S. Heaney, head of the department of obstetrics and gynecology, Rush Medical College, was guest of honor and principal speaker at the annual banquet of the Champaign County Medical Society, Champaign, November 15.

Dr. Ernest B. Downs has resigned as assistant surgeon at the Danville Soldier's Home, Danville, to take a similar position at the Indiana State Soldier's Home Hospital, Lafayette, Ind.

At a meeting of the Society of Medical History, at the John Crerar Library, December 14, Dr. B. Barker Beeson spoke on "Alfred Fournier and the Study of Syphilis" and Dr. George H. Weaver on "Edward Mead: Pioneer Neuropsychiatrist of Illinois."

Dr. Clesson Atherton, formerly assistant managing officer of the Kankakee State Hospital, Kankakee, has been appointed superintendent of

the Southern Wisconsin Home for the Feeble-minded and Epileptic, Union Grove, Wis., to succeed Dr. Henry C. Werner, resigned.

Dr. Morris Fishbein of the editorial staff of the *Journal A. M. A.*, delivered a lecture on "Medicine and the Press" before the Medill School of Journalism of Northwestern University, December 6.

Dr. C. W. East, superintendent of the division of public hygiene and public health nursing of the State Department of Health, for several years past, will resign that position, February 1st, to become general orthopedic director of the Illinois Crippled children's society, an organization sponsored by the Rotary clubs of the state. It is said that the arrangement was made as the result of lack of appropriations by the last legislature sufficient to carry on the work efficiently. Dr. East has conducted numerous clinics for crippled children throughout the state with conspicuous success.

Dr. Anfin E. Egdahl was elected president of the Rockford Health Education council last month.

Dr. Hugh E. Cooper has been appointed county physician of Peoria county.

Dr. George B. Kelso of Bloomington has gone to St. Petersburg, Florida, to recuperate from a long sickness.

Dr. John O. Cletcher, formerly of Cisco, has recently taken over the office in Tuscola vacated by Dr. W. E. Rice upon his removal to Raton, N. M.

News Notes

—The contract has been let for the erection of a \$30,000 convalescent home for the Chicago Home for Convalescent Women and Children, West Adams street.

—The Franklin Hospital will erect a building at Franklin Boulevard and Sawyer street at a cost of \$350,000. It will have a capacity of 200 beds.

—The annual meeting and election of officers of the Chicago Post 216, American Legion, was held, December 6. Dr. Joseph E. Rowan, Chicago, was elected commander for the ensuing year succeeding Dr. Patrick J. H. Farrell.

—At a joint meeting of the Chicago Neuro-

logical and the Chicago Laryngological and Otolological societies, December 3, Dr. Wells P. Eagleton, Newark, N. J., gave an illustrated lecture on "Operative Treatment of Inflammation of Brain and Meninges of Oto-Rhinologic Origin."

—The Irving Park Branch of the Chicago Medical Society went on record, November 13, as favoring the expulsion of members of the society who are using the Abrams method of diagnosis. The resolution adopted was presented to the council of the Chicago Medical Society.

—Max Walder, chiropractor of Danville, was found guilty by a jury in a Danville court of "treating human ailments without the use of medicine or surgery and without a state license," it is reported. Walder appealed the case maintaining that the law is invalid.

—An official statement from the Illinois Department of Registration and Education states that the Chicago Medical School was removed from the accredited list several months ago and has not been reinstated, "nor has any promise been made to any one that any such action is contemplated."

—Drs. Ralph W. Nauss and R. C. Cook of the state department of public health recently gave a demonstration of Schick testing and smallpox vaccination before the Hancock County Medical Society at Carthage. Lantern slides were also shown. Dr. Nauss conducted a similar demonstration in Galesburg before the Knox County Medical Society, recently.

—Mrs. Montgomery Ward has donated \$3,000,000 to be used for a medical and dental school on the new McKinlock Campus on Chicago Avenue for Northwestern University Medical School. The gift is a memorial to her husband and will be known as the Montgomery Ward Memorial.

—Work will start in the spring on the McKinley Hospital on the campus of the University of Illinois, Champaign. This \$150,000 building, a gift of Senator William B. McKinley, will be one of a group which will form the south quadrangle. It will be three stories high and have a capacity of sixty beds.

—A set of standards known as "Standards of Infectivity Pertaining to Venereal Disease" has been officially adopted as a part of the rules and regulations of the department of public health.

The standards have been printed in pamphlet form and are available to physicians, health officers, social workers, lawyers and judges of the courts on request, addressed to the director of public health, Springfield.

—The North Central Illinois Medical Association celebrated its fiftieth anniversary at Streator, December 4. Dr. Roy Sexton presided. The counties of Bureau, DeKalb, Lee, LaSalle, Livingston, Marshall, Putnam, Whiteside and Woodford are included in the society. Drs. Elven J. Berkheiser, Alfred A. Strauss and Edward H. Ochsner, all of Chicago, and Dr. James W. Pettit, Ottawa, gave addresses.

—A joint clinical meeting of the Chicago Society of Industrial Medicine and Surgery with the Illinois Society of Industrial Medicine and Surgery was held in Chicago in place of the regular December meeting, December 3-4. Clinics were held at St. Luke's and the West Side Hospital, December 3, followed by a dinner at the Great Northern Hotel in the evening. December 4, a clinic was presented by Dr. William B. Fisk, chief surgeon of the International Harvester Company at the McCormick works.

—At a meeting of the board of governors of the Institute of Medicine the following officers were elected for 1924: Drs. Cassius D. Wescott, president; Isaac A. Abt, vice president; George H. Coleman, secretary; and Joseph A. Capps, treasurer. Dr. Ludvig Hektoen was reelected chairman of the board of governors. Dr. Frank Billings presented to the institute the sum of \$10,000 to be apportioned in two funds of \$5,000 each known as the Lewis L. McArthur and Ludvig Hektoen funds. The income is to be spent in the promotion of investigation in internal medicine, in the payment of honorariums for lectures before the institute, or for such other purposes as the board of governors may direct. Should the institute at any time give up its charter the money is to revert to a medical school connected with a university in the state of Illinois, to be used for similar purposes.

—The North Central Illinois Medical Association held its fiftieth annual meeting in Streator, December 4, with an interesting program. In the evening, Dr. Edward H. Ochsner, president of the Illinois State Medical Society, gave an address on "Cooperation."

—The Oconomowoc Health Resort announces the opening of a new building for occupational therapy with competent women teachers in charge placing this institution in the forefront of occupational therapy plants.

—Dr. Harold Swanberg announces that the Quincy X-Ray and Radium Laboratories will loan radium to reputable physicians at moderate fees.

—The Chicago Council of Medical Women meets January 22, at 153 North Michigan Avenue. Dr. Mary Elizabeth Hanks will present "Roentgen Ray as a Remedy in Uterine Fibro Myomata and other Gynecological Diseases; a Review of 220 Non-malignant cases."

—The recent annual election of the Adams County Medical Society held in Quincy on December 10, 1923, resulted as follows: President, Dr. Warren Pearce; first vice-president, Dr. Fred Bowles; second vice-president, Dr. Frank Cohen; treasurer, Dr. Joseph Blomer; secretary, Dr. Harold Swanberg; defense committee, Dr. John A. Koch; trustee and library committee, Dr. E. B. Montgomery, for three years; censor, Dr. T. B. Knox, three years, all of Quincy, Ill.

Deaths

JAMES W. CURLESS, Ursa, Ill.; Louisville (Ky.) Medical College, 1881; aged 73; died, December 3, of senility.

FRED A. HANSON, Burnside, Ill.; Chicago College of Medicine and Surgery, 1909; aged 44; died, November 6, of pernicious anemia.

WILLIAM GEORGE HAWKEY, Belvidere, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1898; member of the Illinois State Medical Society; county coroner for twelve years; formerly member of the board of health; aged 59; died, December 2, of embolism.

EDWIN JAMES KENNEDY, Tiskilwa, Ill.; Ohio State University College of Medicine, Columbus, 1908; served in the M. C., U. S. Army, in France, during the World War; aged 48; died, November 19, at the Presbyterian Hospital, Chicago, following an operation for carcinoma of the rectum.

ALBERT LOUIS REAM, a Fellow A. M. A., Chicago; Chicago Medical School, 1915; served in the M. C., U. S. Army, during the World War; aged 48; died, December 9, at the Wesley Memorial Hospital of uremia.

HAROLD NICHOLAS MOYER, Chicago; Rush Medical College, Chicago, 1879; a Fellow A. M. A.; died,

December 14, of heart disease. Dr. Moyer was born in Canajoharie, N. Y., in 1858; from 1886 to 1903, he served on the faculty of Rush Medical College as an assistant in diseases of the nervous system, lecturer in physiology and histology, adjunct professor of medicine, assistant to the neurologic clinic and assistant professor of medicine. He was a member of the House of Delegates of the American Medical Association from 1902 to 1904, and a member of the Reference Committee on Credentials of the House of Delegates in 1904. He was formerly president of the Illinois State Medical Society and the Chicago Medical Society, was a member of the Chicago Neurological Society, the Chicago Pathological and the American Neurological Association. He was at different times on the staff of the Cook County, the Columbus, St. Luke's, and the Mercy hospitals of Chicago, and the Eastern Hospital for the Insane, Kankakee, Ill. Dr. Moyer was widely known as a medico-legal adviser. He was a man of genial character with numerous friends.

FRANK AUSTIN PALMER, Morris, Ill.; —Northwestern University Medical School, Chicago, 1897; a Fellow A. M. A.; served in the M. C., U. S. Army, with the rank of captain, during the World War; aged 50; died, December 2.

WEBSTER COLEMAN SMITH, Franklin Grove, Ill.; Rush Medical College, Chicago, 1885; aged 82; died, December 6, of senility.

CHARLES G. SCHMIDT, St. Jacob, Ill.; Marion-Sims College of Medicine, St. Louis, 1897; a Fellow A. M. A.; aged 51; died, November 25.

FRED WARNER STEVENS, La Grange, Ill.; College of Physicians and Surgeons, Chicago, 1906; a Fellow A. M. A.; aged 50, died, December 14, of lethargic (epidemic) encephalitis.

JOSEPH M. SWOFF, Arenzville, Ill.; University of Louisville (Ky.) Medical Department, 1880; member of the Illinois State Medical Society; aged 69; died, November 11, of heart disease.

CHARLES E. THURMON, Milton, Ill.; Missouri Medical College, St. Louis, 1885; formerly a druggist; aged 70; died, November 28, of heart disease.

ELIZABETH N. TOLD, Chicago College of Medicine and Surgery, 1909; aged 36; died, November 23, at the Mary Thompson Hospital, following an appendectomy.

HARDIN WILCONSON, Loami, Ill.; American Medical College, St. Louis, 1880; aged 72; died, December 4, of pneumonia.

WALTER FRITZ WINHOLT, Chicago; Rush Medical College, Chicago, 1913; a Fellow A. M. A.; member of the Chicago Pediatric Society; assistant professor of medicine and pediatrics at his alma mater; medical director of the Chicago Infant Welfare Society; served in the M. C., U. S. Army, during the World War; on the staffs of the Cook County Hospital, and the Presbyterian Hospital, where he died, December 9, of chronic nephritis and heart disease, aged 35.

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ILLINOIS STATE MEDICAL SOCIETY ANNUAL MEETING, SPRINGFIELD, MAY 6-8, 1924

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after three months from date of publication, 50 cents.

Editorial

ILLINOIS STATE MEDICAL SOCIETY MEETING

To avoid conflict with the meeting date of the
American Medical Association, the annual meet-
ing of the Illinois State Medical Society will be
held in Springfield on May 6, 7, 8, 1924. The
programme is as follows:

Medicine, 16 papers.

Surgery, 16 papers.

Eye, Ear, Nose and Throat, 14 papers.

Public Health and Hygiene, 14 papers.

Owing to the fact that the complete programme
must be carried by the April issue of the JOUR-
NAL, it is necessary that the completed pro-
gramme of each section be delivered at the secre-
tary's office (Dr. W. D. Chapman, Silvis, Illinois).
during the first week of March or earlier.

The following rules are to be observed:

All papers by members shall be limited to
twenty minutes and remarks in discussion to five
minutes, floor privilege being allowed only once
for the discussion of any one subject.

All papers read before the society or any of
its sections shall become the property of the
society. Each paper shall be deposited with the
Secretary when read, and the presentation of a
paper to the Illinois State Medical Society shall
be considered tantamount to the assurance on the
part of the writer that such paper has not already
appeared and will not appear in medical print
before it has been published in the ILLINOIS
MEDICAL JOURNAL.

A paper not heard in its scheduled turn shall
be held subject to the call of the Chairman of
the section at the end of that regular session, if
time permits; and, as an alternative, at the end
of the program.

All discussions shall be confined strictly to the
subject in hand.

No paper shall appear in the printed trans-

actions of the meeting unless read in full or in abstract.

The officers of the several sections are as follows:

Section on Medicine:

Chairman, J. E. Tuite, Rockford.

Secretary, J. H. Hutton, 807 E. 63rd St., Chicago.

Section on Surgery:

Chairman, R. W. McNealy, 25 E. Washington St., Chicago.

Secretary, Ben D. Baird, Galesburg.

Section on Eye, Ear, Nose and Throat:

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Section on Public Health and Hygiene:

Chairman, S. S. Winner, Chicago.

Secretary, D. J. Lynch, 6548 Glenwood Ave., Chicago.

The Society:

President, E. H. Ochsner, Chicago.

Secretary, W. D. Chapman, Silvis, Ill.

LITERATURE DEALING WITH THE QUACK PROBLEM AT YOUR DISPOSAL

A pamphlet entitled "Some Facts Worth Knowing" has been gotten out by the State Society, copies of same can be had gratis by writing to the Secretary of the State Society, Dr. W. D. Chapman, Silvis, Illinois. This pamphlet sets forth first facts about all the cults, and second a few of the accomplishments of the medical profession. Patients making inquiry about the cults should be handed one of these reprints and asked to carefully read it. In this way much valuable time and unnecessary controversy is avoided and the inquiring patient will actually get reliable information as to what the medical profession stands for and what it has accomplished in the prevention and elimination of disease and how inadequately prepared to treat human ills all the cultists are.

The supply of this pamphlet is unlimited and we suggest that every Doctor in the State distribute the pamphlet freely among his patients. If this is done quite universally it will help materially in the State Society's plan for educating the public and will lessen materially the burden of the committee who has charge of the responsibility of the lay educational campaign.

FEDERAL AID BILLS IN CONGRESS

Doctors still condemn the principle of federal aid as pernicious and dangerous, that it is an encroachment on the function of the state and an invasion of State authority tending to a demoralization of the state and public health work, rather than its development. A dangerous federal aid measure has recently been introduced in the House of Representatives. It is known as H. R. 5795, "House of Representatives, January 19, 1924." "Introduced by Mr. Frederick W. Ballinger and referred to the Committee on Education."

"A Bill to Establish a Department of Education and Welfare, and for Other Purposes."

The bill is a part of a proposed reorganization plan. The department will combine, education, public health, social service, pensions, veterans bureau, hospitalization, soldiers' homes.

Dr. Sawyer testified last year for the year just closing that the expense of these four divisions involve \$701,596,000, the present bill does not in terms provide federal aid but transfers existing federal aid bureaus, namely, maternity, vocational education, soldiers rehabilitation, etc. We quote the bill as follows: "Be it enacted by the senate and house of representatives of the United States in Congress assembled, that there is established at the seat of government an executive department to be known as the Department of Education and Welfare for the purpose of protecting and promoting the education, health and social welfare of the people of the United States.

The Illinois members on this committee are: Hon. Edward J. King, representing the counties of Galesburg, Knox, Henry, Fulton, Schuyler, and Adams. Hon. William P. Holaday, of Georgetown, representing the counties of Kankakee, Iroquois, Vermillion, Edgar, Clark and Cumberland Counties.

Public education, public health and all other functions not specifically delegated to the Federal government by the U. S. Constitution, have been and properly are functions of State and Local Government. With a Federal department to oversee these activities and dispense federal grants in aid, existing and demanded, practically all effective direction will come in the future from Washington. Add to them public safety and the courts and our Union of Sovereign States will be completely a thing of the past. Illinois will be

one of six or seven States putting up more than fifty per cent of the cost of government and with mighty little to say about what goes on within her own borders, including how the money is spent which is levied and collected by local taxation.

The simple department of education Bill with \$20,000,000 Federal aid for physical education, \$15,000,000 for "Americanization", \$15,000,000 for teachers and \$50,000,000 for general education, is of some stripe.-50-50.

The Sterling-Reed Bill is a separate bill, is known as the Education Department Bill (S 1337; H. R. 3923) introduced by Senator Thomas Sterling (Rep., S. Dak.). He and the national education association will oppose the Education and Welfare Department, but demand instead, the creation of a separate department of education as proposed in his bill.

The Sterling-Reed Bill provides for \$200,000,000 per year (\$100,000,000 Federal, \$100,000,000 State). This bill will have separate hearings, before Senate and House Education Committees.

Both these Federal departments should be opposed. All should send telegrams, resolutions or briefs in opposition to the Welfare Department to Senator James W. Wadsworth, Jr., (a member of the reorganization committee) requesting that they be inserted in the record of the hearing.

NOTE: It should be remembered that the Sterling-Reed Bill would cost \$200,000,000, or about the same as the bonus (\$250,000,000) a year, first four years, and \$211,000,000 a year for twenty years says Secretary Mellon). That the "welfare" department, as Dr. Sawyer testified would control \$700,000,000 a year; and that the two together would mean a new \$900,000,000 a year Federal department which would quickly become a billion dollar department, and increase taxes as much as the bonus, while controlling education, public health, etc., in a manner which would menace the public more than the increase of taxes involved.

We agree with ex-Governor Lowden of Illinois and other great thinking men of the country as well as the influential newspapers of the land that if the present tendency towards centralization at Washington go on that all vitality will go from the several communities and states of the country in the management of their own affairs and that when this condition is brought

about the country will be in ruin and in no department of government is the situation more menacing than in the health welfare of the people.

CLINICS RUN BY THE STATE HEALTH DEPARTMENT—REPORT OF STATE SOCIETY COUNCIL COMMITTEE ON SAME

At the January meeting of the council of the State Society Dr. H. M. Camp, chairman of the Council State Society Committee on Clinics, presented the following report, which was adopted:

PREAMBLE:

We Believe: 1. that physicians of the state of Illinois are, as a class, more vitally interested in all matters pertaining to the promotion of public health and health regulation than any others, and that the enforcement of existing rules and regulations of the state department of health depend upon the co-operation and assistance given by the medical profession, because the physician comes more closely in contact with the public—from the health standpoint.

We Believe: 2. that the state Department of Health should be most interested and active in promotion of health and the conservation of life, but it should limit itself to function only through measures of Education and Preventive medicine with exception of:

a. The Case of inmates of State institutions, i. e., Penitentiaries, Homes for aged and orphans, Reform Schools, etc.

b. Contagious cases where local authorities are unable to cope with the situation.

We Believe: 3. that all state subsidies pertaining to health should be limited and that the problem of free clinics and indigent care should be given most serious consideration, in order that the state refrain from a growing tendency of pauperizing its people and in order that there be no encroachment upon the legitimate rights and the privileges of the medical profession.

We Believe: 4. in and approve of free clinics for the indigent but feel that the supervision of such clinics should be directly under the control of the local medical profession.

We Believe: 5. all questions pertaining to the practice of medicine and the prevention of disease should be submitted, by the Director of Public Health for consultation, to the medical pro-

fession—as represented by the Illinois Medical Society.

In accordance with the above we submit the following resolution:

Whereas, the medical profession of the State of Illinois are agreed, in the common opinion, that the State Board of Health of Illinois has gone beyond its legitimate bounds in certain matters of Public Health, and

Whereas, physicians of Illinois feel that they should have some representative voice in public health matters, which they at present have not, and should be privileged in helping shape the policies of the Illinois State Board of Health.

BE IT THEREFORE RESOLVED: that, we, the Council of the Illinois State Medical Society, through our good offices, offer to the Director of the Department of Public Health our hearty co-operation and place at his disposal our services which we feel might be helpful, and

BE IT FURTHER RESOLVED: that we petition the Director of Public Health for a par-lance, annually or semi-annually as the case may necessitate, or as it may be desired, in furtherance of a plan for harmony, the State's welfare and the public's good.

RECIPROCITY WITH THE ADVERTISERS IN THE JOURNAL

OTHER COUNTY MEDICAL SOCIETIES PLEASE COPY

At a meeting of the central Illinois Radiological Society held at Peoria, January 26, 1924, the following resolution was adopted.

Whereas: The ILLINOIS MEDICAL JOURNAL is our Journal in which we are equally interested financially. Therefore, be it resolved: That in purchasing supplies we give a decided preference to the Company's advertising in the Illinois State Medical Journal.

Unanimously adopted by the Central Illinois Radiological Society in regular session assembled at Peoria, Ill., this twenty-sixth day of January, 1924.

Dr. Perry B. Goodwin, Sec'y.

TWO OTHER SOCIETIES FOLLOW SUIT

At the meeting of the central Illinois Radiological Society held at Peoria, January 26, 1924, a resolution was presented by Dr. Cantrell and adopted to the effect that members of the organization give a decided preference to advertisers in

the State Journal when buying slides, equipment, etc.

At the meeting of the American Association for the study of goiter held in Bloomington, Illinois, January 23-25, 1924, with several hundred in attendance, all were urged to buy from advertisers from State Journal when possible to do so.

Two hospitals in Bloomington refuse to buy from any one unless he is an advertiser in the State Journal. The McLean County Medical Society has passed such resolution and the members as a whole are sticking by it in good shape.

The following anonymous verse contains a note of warning to the retailer who does not see the desirability of advertising his store occasionally:

MAY HE REST IN PEACE

Breathes there a man with soul so dead,
Who never to himself hath said:
"My trade of late is getting bad.
I'll try another ten-inch ad."
If such there be go mark him well
For him no bank account shall swell;
No angel watch the golden stair
To welcome home a millionaire.
The man who never asks for trade
By local line or ad. displayed
Cares more for rest than worldly gain,
And patronage but gives him pain.
Tread lightly, friends, let no rude sound
Disturb his solitude profound;
Here let him live in calm repose
Unsought except by men he owes,
And when he dies go plant him deep,
That naught may break his dreamless sleep:
Wherein no clamor may dispel
The quiet that he loved so well:
And that the world may know its loss
Place on his grave a wreath of moss;
And on a stone above: "Here lies
A Chump who wouldn't advertise."

Doctor, this is your journal, it becomes, therefore a privilege, as well as an obligation, of our readers to patronize our advertisers. Let us be consistent as joint owners in our Journal, and buy goods from our patrons, in other words the advertisers in the Journal.

THE DOCTOR

But the warm, ready, self-forgotten friend,
Not the mere artist, purchased to attend,
Whose genial visit in itself combines
The best of cordials, tonics, anodynes.

OLIVER WENDELL HOLMES, M.D.

ROTARY CLUBS SHOULD NOT CONDUCT CRIPPLED CHILDREN'S CLINICS

At the January meeting of the State Society council the following resolution was read, adopted and ordered published in the JOURNAL:

WHEREAS, The Rotary Clubs of Illinois have seen fit to conduct Crippled Children's Clinics throughout the State, under their auspices, and

WHEREAS, we, the Medical Profession of Illinois feel that this would cause an unfavorable reaction among the profession in the State, and

WHEREAS, we feel that the Rotary Clubs should not enter in Medical Practice, and that the local medical men, many of whom are Rotarians, can efficiently render this same service,

BE IT HEREBY RESOLVED, that we, the Illinois Medical Society, through its Council, condemn and advise against such arrangements, and recommend that these crippled children's clinics supported by Rotary be conducted by the local medical and surgical men in the various counties where same are to be conducted, and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to the Rotary Clubs of Illinois, with the assurance that the State Medical Society will heartily co-operate with them in arranging for such County Crippled Children's Clinics as are herewith suggested.

A SAMPLE OF STATE MEDICINE DUPLICATING WORK—THE TAXPAYER FOOTING THE BILLS.

The following from the BULLETIN of the Chicago Medical Society is hereby published for the information of the medical profession.

MUNICIPAL TUBERCULOSIS DISPENSARIES

There appeared in the Bulletin of July 28th, 1923, copy of a certain order requiring each of the school tuberculosis physicians to refer at least four suspect cases each week to the M. T. D. in order that the machinery might continue to grind, and those on the M. T. D. payroll might continue to draw their salaries.

The Medical Society has no way of checking up on these Dispensaries, but we do know that not only the people of Chicago, but the profession as well are being imposed upon and the taxpayers' money being spent under the guise of suspects.

The article below is very illuminating and will

open the eyes of the medical profession to the insidious inroad that State Institutions are making on the liberty of our people. Is it not time that the medical profession go to Springfield (in a body, if necessary) and insist on a change in our present law requiring over 21,000 of our children under the pretext of suspect T. B. to be treated free of charge when they should be under the care of their own family physician?

It is only another form of socialism or state medicine.

We believe the Council of Chicago Medical Society should give this matter its earliest attention.—Editor.

January 25, 1924.

To the Member of the Chicago Medical Society:

The Dispensary Division of the Municipal Tuberculosis Sanitarium has been rapidly increasing in cost during the last few years. This cost in 1923 exceeded half a million dollars.

The records of the work done—patients examined, patients under treatment, patients visited in their homes and patients sent to the sanatorium—justifies one in the belief that the present policy and routine should be revised. A plan which modifies the present status of the group of nine full-time \$5,000.00 a year dispensary physicians was suggested. This plan is vigorously opposed on the basis of curtailing the benefits of the "poor" (patient, not doctor).

Following are some of the interesting records:

1. 24,360 patients are "under treatment" by the 21 dispensary doctors. Of this number 1630 are positively tuberculous with positive sputum, but 569 of these are under the care of private physicians. If only one in 20 of those "under treatment" are positively tuberculous one is justified in wondering what the other 19 are being treated for. Perhaps some are "suspected" of being sick, but surely not all of them.

2. The dispensary doctors pass on all those to be admitted to the Sanatorium. In 1922 there were 2337 patients discharged from the Sanatorium. Of this number 853 at the time they were admitted (not the time they were discharged) to the Sanatorium were classed as "non-tuberculous." This institution was built to care for those having tuberculosis. It is evidently being used for other purposes.

3. The 21 dispensary doctors during 1923 made 570 home calls on patients—an average of

one call for each doctor every two weeks. It is stated that over 1000 open active pulmonary cases are "under treatment" by the dispensary doctors. It seems reasonable to assume that at least a fair percentage of these cases are too sick to come to a dispensary. If they are "under treatment," it must be "absent treatment."

4. Of those under observation, 21,870 or 63.6 per cent are children—mostly school children. This work is a duplication as the children are also "under observation" of 50 school physicians who are also paid from the tuberculosis fund.

5. The tuberculosis visiting nurse has been instructed that she was an instructor, a teacher and only incidentally a nurse. Hence, the absurd situation of a visiting nurse making regular calls on patients, but rendering no nursing service. In 1922 these nurses made 237,470 visits, but in only 2118 or less than one per cent. was there any nursing service rendered.

To those who have any ideas about "state medicine" this working out of a concrete example must be a startling revelation.

It is believed that the present eight tuberculosis dispensaries if kept open from 9 to 12:30 six days a week, and 7 to 9 two evenings a week, would adequately and generously meet every need in the districts now covered if the duplicating work with school children was eliminated. This change would make possible a plan for placing all full time dispensary doctors on a half time basis and reduce their salaries proportionately. The \$5,000.00 men object. They are sure the "poor" would suffer. I am frank to say that this operation will probably require deep ether anesthesia.

JAMES A. BRITTON, M. D.,
Secretary Board of Directors.
Municipal Tuberculosis Sanitarium.

APPROVED PLAN FOR PERIODIC HEALTH EXAMINATIONS

At the January meeting of the council of the State Society it was moved and carried that the council recommend the co-operation of the society with the national association for the promotion of periodic health examinations and that the co-operation of the council be extended so long as the purposes be purely educative, and that Dr. E. H. Ochsner and Dr. C. J. Whalen be authorized to represent the council in this organization.

IN UNION THERE IS STRENGTH

Under present conditions no doctor can hope to succeed by considering himself only. Progress and integrity in medical practice can be brought about only by constant consideration of the importance and necessity of working in unison.

If physicians will only keep in mind the fact that whatever contributes towards the success of the profession as a profession adds to individual welfare we will prosper individually as the profession grows in numbers and influence. To win and to retain the confidence of the people is an advantage both to the individual and to the organization.

The most *worth while* doctor today is one who realizes that he is an essential cog in the great medical organization and that individual success depends largely on the success of the profession as a whole. "The whole is greater than the part."

It is time for the medical profession to realize that an era of professional prosperity awaits only the recognition on the part of physicians both individually and collectively, that the people will trust and respect only those who respect and trust each other, and that to a like degree. Confidence and respect for medicine itself by those who practice it, and more, tolerance for fellow workers is the keynote to success in present day practice of medicine.

THE BLIGHT OF STANDARDIZATION NOWHERE MORE MENACING THAN IN MEDICINE

President Eliot, of Harvard University, in discussing the subject of standardization says: "A new blight is affecting education and industries in the United States. *Its name is standardization.* It is obvious that standardization has become a dangerous adversary of progress in both education and industry. The ideal in education is to develop the utmost possible variety of individual attainment and group attainments; just as the true goal of democracy is the free development of the utmost variety of capacity in the individual citizen; the true educational goal is the utmost development of the individual's capacity or power, not in childhood and adolescence alone, but all through life. Fixed standards in labor, in study, in modes of family life, or of community life, are downright enemies of progress for the body, mind, and soul of man.

President Eliot did not mention medical education specifically. It is included, however, in

the general subject of education. Nowhere is the blighting curse of standardization and centralization of power more menacing to the welfare of the people than in medical education and hospitalization under the present system of self seeking exploiters.

Medicine has witnessed many strange dictatorships in her career, but none more interesting than the present day attempt of an aggregation of self appointed medico-politico mountebanks who seek to standardize not only their own specialty, but every other specialty that has to do with cure of human ills.

Five centuries B. C. the republic of Rome was launched upon the stormy sea of national life. Toward the end of the republic, after a career of war and conquest unexampled in human history, Rome was tottering to her fall. Mighty men stretched forth patriotic hands to save her from her friends, but all in vain.

Largely on account of the vast increase of wealth and power and of a simultaneous decay of the old Roman virtues there rose a crop of brilliant demagogues whose sole ambition was personal power and glory. No more could it be said "that none was for a party, but all were for the state." Sulla, Marius, Pompey, Caesar and Antony, all made the state a secondary consideration. Drunk with vanity and ambition to rule Rome or ruin her, they did both.

The power that ruined Rome was bribery at one extreme and greed at the other. Men accepted flattery and yielded to coercion in Rome. Some medical men are tarred with the same stick at the present time, but the betrayal of the rank and file by a few will be the ultimate destruction of the many. Too much faith has been put in mere promises. These will o' the wisps will land the profession on the rocks.

We say the present disposition of certain medical demagogues is a revival of the spirit, methods and purposes of pagan Rome. Present procedure, especially when viewed with the methods used in carrying out a seeming benevolence, is, to say the least, indelicate, un-American, and a departure from that dignity and faith which is becoming to the rank and file of the medical profession.

REST CURE

Housework is announced as a cure for neurasthenia. We have always suspected that our cook was really a duchess taking a rest cure.—*London Opinion*.

DOCTOR, ALLOW YOURSELF THE ENTERTAINMENT. READ A BOOK CALLED "CURES" BY JAMES J. WALSH, M. D.

The publicity committee of the Illinois State Medical Society suggests that every physician in Illinois allow himself the entertainment of reading a book called "Cures," by James J. Walsh, M. D., Ph. D., Sc. D. D. Appleton and Company, New York.

An appreciation of the quaint humor and excellent history contained in Dr. Walsh's book will lessen the labors of the committee much.

The publisher of Dr. Walsh's book offers the following introductory:

Dr. Walsh here reviews the history of the varied panaceas or human ills which the public have grasped at in the past and which win so many adherents at the present time. As old as human nature is this search for the remedy or the treatment that will alleviate human ills; and Dr. Walsh's entertaining style of writing and his medical knowledge are allied in a truly amazing record of the world's credulity. His viewpoint is one of fairness and impartiality. In his first chapter he tells of "The cures that have failed"—a surprising marshalling of facts running right down to our own day and generation. "Personal Healers" marked the whole course of the history of "cures," from the English King's cure of "King's evil" to such modern healers as Phineas Quimby and Dowie. Dr. Walsh carefully explains "drug cures" and "cures with a punch" (a surprising chapter). He tells of Mesmer, Dr. Elisha Perkins and his tractors, "absent treatment," Andrew Jackson Davis and others, "cures" through hypnotism, appliances, and manipulations. Among "mystical cures" the reader finds "Dr. Conan Doyle's spirit world," "Christian Science," and "religious cures." Psychoanalysis and Cone are the subjects of interesting analysis. The author in his preface says: "All down the centuries we have had all sorts of means for the cure of disease. They have come and gone. Nearly every substance on the earth or from under the earth or the heavens above has been used as a vaunted cure and has succeeded in a certain number of cases. Nearly every kind of persuasion, psychological, metaphysical, religious, superstitious, scientific, and above all pseudo-scientific has been used efficaciously in the same way."

This is the material out of which this book on

the cures that have failed has been made. Poor human nature when ailing, like the drowning man, grasps at a straw, only the amusing thing is that his mind so often turns the straw into a solid gleam of hope on which he floats into the harbor of good health when he thought he was seriously ill. Why should not human nature have its delusions when they add to the happiness of men? It is not with the idea of eradicating the delusions that this book is written, but so that we may altogether laugh a little quietly at this human nature of ours and its humorous ways.

COLORADO'S "MATERNITY LAW"

Colorado has a new "Maternity Law." It has some interesting features. Provisions are made for the expectant mother during the last six months of her pregnancy. The infant's welfare is assured during its first six months after birth. The operation of the law is in the hands of the Children's Court, over which Judge Ben Lindsay presides. Either the mother or friends may make application for relief which includes all varieties, from cash to medical and hospital care. All proceedings are conducted in the most confidential manner. Physicians and hospitals and nurses are paid for their services.

Unmarried mothers are given the same confidential care as others, including loss of identity in maternity hospitals. Infants of unmarried mothers will be placed in homes upon request. The law also gives the court wide authority in dealing with the father responsible for an illegitimate child.

It is claimed for this law that it requires no enlargement of government machinery and that its benefits are easily and confidentially available without red tape to any mother unable to pay the necessary costs of adequate assistance.

The power of the court to require fathers to accept financial and other responsibility for their illegal children is expected to reduce the cost of operating this law to the taxpayers.

This all sounds too good to be true.

ESTABLISHING A SCHOOL OF INSTRUCTION IN TUBERCULOSIS

At the meeting of the State Council in January Dr. J. W. Pettit of Ottawa outlined a proposal for a school of instruction for tuberculosis which the Illinois Tuberculosis Association might be able to place at the disposal of the sev-

eral county societies. It was moved and carried that the council give its endorsement and moral support to such a plan conducted under the auspices of the Illinois State Medical Society and the Illinois Tuberculosis Association.

DR. ALBERT ABRAMS DIES

Dr. Abrams of electronic reactions fame died of pneumonia on the 13th of January at his home in San Francisco.

The death of Dr. Abrams removes a man who had become internationally known because he had developed more theories and promulgated more indefinite assertions than any other man of his time.

Dr. Abrams was subject to much ridicule by the scientists throughout the country. Several people submitted to him for diagnosis the blood of chickens, lambs, pigs, etc., and in most every instance he claimed that the creatures were suffering from syphilis, cancer, tuberculosis, etc.

We are interested in learning who will attempt to perpetuate Abrams' vagaries. In most freak systems that have arisen in the last century the vagaries have died with the originator.

DON'T FORGET YOUR INCOME TAX

I. WHO MUST MAKE RETURNS

Returns must be filed by the following persons: (1) every person, whether married or single, whose gross income during the year was \$5,000 or more; (2) every married couple, living together, whose gross income was \$5,000 or more; (3) every married couple, living together, whose net income was \$2,000 or more, no matter what their gross income was; and (4) every unmarried person whose net income was \$1,000 or more, no matter what his gross income was.

Blanks for making returns are sent to taxpayers by collectors of internal revenue, without request, merely as a matter of courtesy. The fact that such a blank has not been received does not excuse any one from making a return. If a taxpayer has not received a blank, he should apply for one to the collector of internal revenue in the district in which the taxpayer resides. All persons deriving any part of their incomes from businesses or professions, as distinguished from salaries and wages, and all persons whose net incomes, no matter from what source derived, were in excess of \$5,000, must make returns on Form 1040. Full instructions as to what constitutes gross income and what net income and as to exemptions and allowable deductions, applicable to taxpayers generally, accompany the blank forms supplied by the collector. Physicians should refer to such forms with respect to matters of general interest. It is undertaken here to supply only

such information as is of special interest to the medical profession.

II. GROSS INCOME: WHAT IS IT?

A physician's gross income is the total amount of money received by him during the year from professional work, regardless of when the services were rendered for which the money was paid, plus such money as he has received as profits from investments and speculation, and as profits from other sources.

III. DEDUCTIONS FOR PROFESSIONAL EXPENSES

A physician is entitled to deduct, in computing his income tax, all current expenses necessary in carrying on his practice. The following statement shows what are regarded by the Commissioner of Internal Revenue as necessary expenses and how such expenses are to be computed in determining the amount to be deducted:

Office Rent.—Office rent is deductible. If a physician rents an office for professional purposes alone, the entire rent may be deducted. If he rents a building or apartment for use as a residence as well as for office purposes, he may deduct a part of the rental fairly proportionate to the amount of space used for professional purposes. If the physician occasionally sees a patient in his dwelling house or apartment, he may not, however, deduct any part of the rent as professional expense; in order to make such a deduction he must have an office there, with regular office hours. If a physician owns the building in which his office is located, he cannot charge himself with "rent" and deduct the amount so charged.

Office Maintenance.—Expenditures for office maintenance, as for heating, lighting, telephone service and the services of attendants, are deductible.

Supplies.—Payments for supplies for professional use are deductible. Supplies may be fairly described as articles consumed in the using; for instance, dressings, clinical thermometers, drugs and chemicals. Professional journals may be classified as supplies, and the subscription price deducted. Amounts currently expended for books, furniture and professional instruments and equipment, "the useful life of which is short," may be deducted, but if such articles have a more or less permanent value, their purchase price is a capital expenditure and is not deductible.

Equipment.—Equipment comprises property of more or less permanent value. It may ultimately be used up, deteriorate or become obsolete, but it is not in the ordinary sense of the word "consumed in the using"; rather, it wears out. Payments for nonexpendable property or equipment for professional use cannot be deducted. As property of this class may be named automobiles, office furniture, medical, surgical and laboratory equipment of permanent value, and instruments and appliances constituting a part of the physician's professional outfit and to be used over a considerable period of time. Books of more or less permanent value are regarded

as equipment, and the purchase price is therefore not deductible.

Although payments for nonexpendable articles or equipment cannot be deducted, yet from year to year there may be charged off reasonable amounts as depreciation, sufficient to cover the lessened value of such property through obsolescence, ordinary wear and tear, or accidental injury. If, however, improvement to offset obsolescence and wear and tear or injury has been made, and deduction for the cost claimed elsewhere in the return, no claim should be made for depreciation. No hard and fast rule can be laid down as to the amount to be deducted each year. Everything depends on the nature and extent of the property and on the use to which it is put. Five per cent per annum has been suggested as a fair figure for depreciation on an ordinary medical library. Depreciation on an automobile would obviously be much greater. The physician must in good faith use his best judgment and make such allowance for depreciation as the facts justify. Depreciation should be computed on the basis of the amount paid for the article or, if purchased before March, 1913, when the first income tax law went into effect, on the basis of its estimated value at that time. Physicians who from year to year claim deductions for depreciation on nonexpendable property will do well to make annual inventories as of January 1 each year.

Medical Dues.—Dues paid to societies of a strictly professional nature are a legitimate professional expense and may be deducted. Dues paid to social organizations, even though their membership is limited to physicians, are personal expenses and not deductible.

Postgraduate Study.—The Commissioner of Internal Revenue holds that the expense of postgraduate study is a personal expense, and therefore not deductible. Efforts are being made to procure a reversal of this ruling.

Traveling Expenses.—Traveling expenses necessary for professional visits to patients are deductible. The Commissioner of Internal Revenue, however, still holds that traveling expenses incident to attendance at meetings of medical societies are merely personal expenses and therefore not deductible.

IV. AUTOMOBILES, ETC.

Money paid for an automobile is a payment on account of permanent equipment, and is not deductible. The expense of maintaining an automobile and loss through depreciation are deductible. The cost of maintenance includes money spent for gas, oil, tires, insurance, repairs, garage rental (when the garage is not owned by the physician), chauffeurs' wages, etc. Deductible loss through depreciation is the actual diminution in value resulting from obsolescence and use, and from accidental injury against which the physician is not insured. If depreciation is computed on the basis of the average loss during a series of years, the series must extend over the entire estimated life of the car, not merely over the period in which the car is in the possession

of the present taxpayer. If the automobile is used for professional and also for personal purposes—as when used by the physician for recreation, or used by his family—only so much of the expense as arises out of the use for professional purposes may be deducted. A physician doing an exclusive office practice and using his car merely to go to and from his office cannot deduct depreciation or operating expenses; he is regarded as using his car for his personal convenience and not as a means of gaining a livelihood. What has been said with respect to automobiles applies with equal force to horses and vehicles and the equipment incident to their use.

V. MISCELLANEOUS

Laboratory Expenses.—The deductibility of the expenses of establishing and maintaining laboratories is determined by the same principles that determine the deductibility of other corresponding professional expenses. Laboratory rental and the expenses of laboratory equipment and supplies and of laboratory assistants are deductible when under corresponding circumstances they would be deductible if they related to a physician's office.

Losses by Fire, Etc.—Loss of and damage to a physician's equipment by fire, theft or other cause, not compensated by insurance or otherwise recoverable, may be computed as a business expense, and is deductible, provided evidence of such loss or damage can be produced, but only to the extent that such loss or damage has not been made good by repair and the cost claimed as a deduction.

Insurance Premiums.—Premiums paid for insurance against strictly professional losses are deductible. This includes insurance against damages for alleged malpractice and for injuries by a physician's automobile while in use for strictly professional purposes, and against loss from theft of professional equipment, and damage to or loss of professional equipment by fire or otherwise. Under professional equipment is to be included any automobile belonging to the physician and used for strictly professional purposes.

Sale of Spectacles, Etc.—Oculists who furnish spectacles, etc., for patients may charge as income money received from such sales and deduct as an expense the cost of the article sold. Entries on the physician's account books should in such cases show charges for services separate and apart from charges for spectacles, etc.

CANCER DATA FOR THE PUBLIC

During cancer week doctors should attempt to enlighten the public to the importance of early diagnosis and treatment of cancer. The following data will be found convenient in the campaign.

If a man has a cancer he needs help; if he hasn't he need not worry.

When in doubt, consult the family doctor, or some other reputable physician.

Simultaneously with its announcement that can-

cer is now killing one out of every ten persons over forty years of age, the American Society for the control of cancer announces flatly that "early cancer yields to many remedies; late cancer yields to none."

If recognized and treated properly in its early stages, cancer is frequently curable. It is an affliction requiring expert attention and one that should be protected both from the ignorant manoeuvrings of home treatment, and the money-grabbing tactics of the charlatane.

Cancer's insidious advance lends even the earliest attacks open to question. Painless, obscure, venomous as deadly snakes that infest the jungle, cancer strikes, literally in the black of the night. The way to cure a cancer is to kill it before it is fairly started.

A cancer starts out under the most innocent of disguises. At the outset the victim has no suspicion that the lump, mole, wart, bruise, burn or small ulcer is anything but a trivial matter. Frequently the ailment disappears naturally enough and all is well. But any undue visitation even from such picayunish illness should be investigated. Not however, at a neighborhood caucus, nor at an assemblage of Sairy Gamps, but by reputable men.

Even if the affliction is of the cancer variety instead of the harmless species, that while irritating is not injurious, still in the early stages, even the cancerous sort can be removed by competent surgeons without increasing danger, and with ninety-nine per cent of a chance for a cure.

Cancer is almost the oldest of mankind's diseases. During the middle ages it was regarded as an evidence of divine wrath. As early as 180 B. C. cancer was treated in Egypt by a process practically as extensive as the operation in modern surgery.

While cancer taken in the early or "pre-cancer" stage is invariably curable, any doctor who tells the credible public that he has a "sure cure for cancer" is making fraudulent assertions. Cancer serum is yet to be discovered. So too, is any remedy that will pretend to cure cancer through injection into the veins, or by nubbing upon the skin. And it may be added that one of the greatest of evils is the "home electric cabinet" that pretends to cure cancer by administering electricity or "X-rays" in the hands of the novice.

Cancer is not inherited nor is it any more contagious than a broken arm if proper cleanliness is observed by the patient. Notwithstanding this one woman out of every eight, who dies when she is over forty years of age, dies from cancer. The task of the cancer prevention movement is to reach those men and women who are thirty-five years of age or over. The Public Health Service of the United States announces that annually one hundred thousand persons in this country are afflicted with some form of cancer. During the world war, in the months of American participation—from April 1917 until July 1919—about 80,000 soldiers were slain. During that same period however, 180,000

persons in the United States died from cancer—a majority of 100,000 over the war fatalities.

Statisticians assert that in 1922 there were 200,000 more deaths in the United States from cancer, than there were in 1900. Surgery, radium or X-ray, or combinations of these two methods are the three currently accepted methods of procedure against cancer, coupled always with the pre-eminent rule of early diagnosis.

NEW EXPERIMENTS ON REJUVENATION

The Journal has commented on the experiments of Steinach and others in the rejuvenation of animals presumed to follow ligation of the vas. Recently Macht and Teagarden of Johns Hopkins University have performed similar operation on six rats, all more than a year old and showing definite signs of senescence. These were compared with two other animals used as controls. Fourteen additional rats were studied by special methods involving the use of animals operated on and adequate controls. The details of the method leave no doubt as to the scientific character of the experiments. After ligation, a number of the rats showed distinct improvement in general appearance and behavior. They were more active, and several developed a new coat of fur. These changes persisted only for several weeks, however, and the animals gradually relapsed into their usual senile state. Also distinct improvement in muscular co-ordination and muscular efficiency of the animals was noted, but this was temporary, lasting only a few weeks. It is the belief of the observers that all the changes noted seemed to have been the results of the operation; they assert, nevertheless, that this cannot be said positively without numerous additional experiments. This work would seem to confirm the impression now prevailing that the various rejuvenation experiments constitute at best only a temporary stimulus, and that the inevitable result is relapse, if not, perhaps, a shortening of life because of additional burdens thrown on a senescent organization.—*Journal A. M. A.*, Nov. 24, 1923.

WHEN ALL PHYSICIANS ARE EMPLOYED AND DIRECTED BY LAYMEN

Board of Education Assigns Physicians' Work to Technicians—When all physicians are employed and directed by laymen news items like the following (*Journal A. M. A.*, September 22, 1923) will not be interesting:

"The three physicians who for a number of years have been retained by the Board of Education of Belleville regularly to 'inspect' the physical condition of school children, will not be reappointed. Their former duties in this regard have been taken over by a school nurse employed at \$160 a month, which means a saving to the board of \$900 a year. Abandonment of the school physician system, it is said, was due largely to a controversy that arose last year in which the physicians objected to the school nurse making diagnoses. Those who will not be reappointed are Drs. Adolph E. Hansing, Henry Reis, Jr., and Charles R. Huggins.

FREE CHOICE OF PHYSICIANS

The Long Island Medical Journal remarks that the great argument put forth by cults to influence legislatures is that people are entitled to a free choice of a healing system, and also of its practitioner. An accessory argument is that a few "medical autocrats" are trying to prevent the people from exercising their inalienable right to buy medical treatment wherever they please, just as they buy clothes, or knives, or guns. The answer to this argument is that it is true that any man may ask any cultist to treat him, just as he may ask any auto driver to give him a ride. When a man hires a taxi-cab, he rightly expects the driver to be accomplished and the auto to be substantial. If a taxi man were known to fail to deliver only one or two riders at their destinations, or to have one or two narrow escapes, his reputation would be gone and his license would be revoked. Yet cultists usually fail to carry out their promises to deliver their patrons in "health land"; they often have narrow escapes from accidents, and they frequently produce death by their neglect to heed plain signs of danger. They ignorantly promise cures of conditions of which they know nothing. This is the line of argument which a physician can use to combat the specious arguments of the public's right to freedom of choice in medical matters; but, of course, little results will follow a scientific reply, for the main reliance of the propagandists is mere reiteration.

The reply of physicians to the pleas of the cultists must be two-fold. First, they must meet activity with activity. Physicians are now awake to the need of reaching and influencing their legislators, and medical societies are financing their legislative committees in order that they may employ stenographers and clerks and counsel after the manner of the cultists. The character and reputation of the average physician is so far above that of the best cultist that a little effort by the doctors outweighs much effort by the cultist.—*Medical Brief*.

ACCIDENTS AND ILL HEALTH IN INDUSTRY

In The Monthly Labor Review, November, 1923, Hookstadt, writing on "Estimated Annual Number and Cost of Accidents in the United States," states that the number of industrial accidents in the United States per annum is almost 2,500,000. There is involved with these accidents the loss of more than 227,000,000 working days. The wage loss incident to industrial accidents amounts, therefore, to more than \$1,000,000,000.

An estimation of the number of fatalities sustained in industry by the more than 41,000,000 persons employed, whether as employers and self-employed, or employees, would amount to more than 30,000 per annum. This means the wiping out of a valuable population, such as would be found in a fairly large city of the country. The results of accidents among employees annually are approximately distributed as follows: Deaths, 21,232; permanent total disability, 1,728; permanent partial disability, 105,629; temporary total disability, 2,324,829.

The Statistical Bulletin, Metropolitan Life Insurance

Company, in commenting on the amount of absenteeism in large business and industrial establishments due to minor illnesses, says: The common "colds" are among the chief sources of lost time. In a group of about 6,700 clerical employes of the Metropolitan Life Insurance Company at the Home Office, during the fifty-two weeks ending July 28, 1923, 2,824 "colds" which involved disability for work were reported to the Medical Division, which cares for the health of the clerical staff. These disabling affections occurred at a rate of 420.7 per 1,000 employes for the year. The average days of disability for this illness per person on the payroll for the year was .9, and the average days per case were 2.2. In all, there were 6,233 days lost in the year from these conditions, which included head colds or coryza, acute bronchitis and tracheitis. Other associated conditions were excluded because of the impossibility of determining in how many cases they were associated with common colds.

It seems that these infections of the upper respiratory tract have two periods of maximum incidence; the first, following the advent of cool weather in the late summer and early fall; the second, occurring during the following January or February, when the coldest weather of the winter prevails. It has been suggested by Dr. Dochez and others that this signifies that there are two types of catarrhal fevers, the one appearing in the early fall, succeeded by the other in mid-winter, accompanied or followed by maximum incidence of severe infections of the respiratory system, including pneumonia, and by a somewhat general mixture and confusion of all types of respiratory infection. This leads to the suggestion of the dependence of one group of respiratory infections upon the other. Are the infections of the upper respiratory system in the early months of cool or cold weather the necessary foundation for the severe pneumonias that appear later on? Others have suggested that we are confronted in this annual progression of respiratory disease only with gradually increasing virulence of many types of organisms.

In the present series, two cases of pneumonia were reported among these employees in December, one in the following March, and seven in April. These insufficient data indicate roughly a time-relationship that is consistent with the hypothesis above stated; but this is obviously subject to a further and more conclusive test from more extensive data. What is needed is an adequate volume of records whereby the cases of upper respiratory disease in the earlier months of cool or cold weather can be related to the incidence of major respiratory infections of later months.

Our data also point out that there are very distinct relationships between these respiratory infections and changes in the weather conditions. We found, for example, that the number of common colds varies with the rise and fall of the weekly mean temperature. A drop in the weekly mean temperature of 10 degrees carries with it an increase of 18 common colds per week in this group of 6700 people. On the other hand such other weather elements as mean relative

humidity and total precipitation show only slight influence on the rise and fall of the incidence of common colds.

SAFEGUARDING THE PHYSICIAN'S REPUTATION

"Professional Reputation Hard to Build Up, Is Easily Destroyed—Papers were filed today in a suit for \$25,000, brought against a reputable dentist, in which it is alleged that a patient died due to an overdose of cocaine. It requires a long time to build up and cherish a fine professional reputation, but a moment to destroy it." This is not all that the *Passaic Daily News* has to say about the too loose habit of most newspapers rushing to print with sensational allegations against reputable men. The newspapers and their editors seem to have a strange system of reasoning this matter out. They hold it to be their inherent right to reproduce any matter filed in any court, regardless of the previous record for fine actions of the man assaulted. They hold that if the matter is filed in any court that it is a matter of public interest, therefore they have a right to reproduce it. Of course they have no such right, for more often than not, these very allegations are filed by the most vicious, irresponsible attorneys, men of the lowest grade of character, shielded by the force of the law which permits them to reduce to writing the most impossible charges. In the end these charges, against both physician and druggist, are nearly never sustained. They often contain the extreme of libelous matter, but the moment it is filed as a petition in court it loses its character of libel by some strange twist of the law, is allowed to stand until the day the court declares it to be untrue, all ending in no recourse whatever for the person who has really been aggrieved.—Editorial, *Journal Oklahoma State Medical Association*, Nov., 1923.

NO SCARCITY OF PHYSICIANS

The A. M. A. Bulletin says: In 1921, as shown by reliable statistics, there was one physician in the United States for every 726 people, as compared with one physician for every 1,041 people in the British Isles in the same year, and, just before the World War, one to every 1,940 people in Germany, one to every 2,020 people in Austria and one to every 2,824 in France.

As to the distribution of physicians in the United States, a tabulation of urban and rural populations, based on returns from the Census Bureau for 1920, shows that, of the total physicians in the United States, 63 per cent. are in cities of 5,000 or greater population, leaving only 37 per cent, in cities or towns of less than 5,000. In other words, in cities of 5,000 or more there is one physician for every 541 people; while in cities of less than 5,000, there is one physician for every 1,020 people. In an investigation for the state of Ohio, conducted by a professor in Ohio State University recently, it was shown that, in cities of less than 2,500 population, there was only one doctor for every 1,600 people. The problem of the country doctor, therefore, is one of distribution and not of total supply.

INSULIN BY MOUTH

The Interrelation Between the Parathyroids and the Pancreas is Emphasized by Startling Experimental Results.

Attention has been called in a previous issue of the *Endocrine Survey* (Nov., 1923, p. 24) to a possible relationship between the parathyroids and the pancreas. Some additional and quite arresting evidence has been uncovered recently. Winter and Smith (*Jour. Physiol.*, 1923, lviii, p. 108) have reported that when insulin and parathyroid solution are injected simultaneously into rabbits, hypoglycemic convulsions follow more quickly and from a remarkably lessened amount of insulin. *They found that it took only about one-fourth of the usual dose to bring about this typical reaction.*

Incidentally these workers reported in the same article the somewhat disconcerting fact that insulin is *not inert when given by mouth* (despite some rather strong statements to the contrary) provided it is properly protected; but about this more anon in another place.

More recently Forrest, of Newcastle-on-Tyne, reports five clinical cases of diabetes to whom parathyroid extract was given *by mouth* in conjunction with insulin, and the blood sugar curve was compared with that previously obtained following the administration of insulin alone. A short article in the *British Medical Journal* (Nov. 17, 1923, p. 916) embodies the case reports, the laboratory figures of which are reproduced here:

Case 1: Twenty units of A. B. insulin given alone. Blood sugar: 0.310, 0.265, 0.227, 0.162, 0.155, 0.187 and 0.234 per cent.

Twenty units of A. B. insulin given with 0.4 gr. parathyroid by mouth. Blood-sugar: 0.329, 0.257, 0.196, 0.141, 0.118, 0.102, 0.136, and 0.169 per cent.

Case 2: Twenty units of insulin given alone. Blood-sugar: 0.342, 0.292, 0.256, 0.201, 0.216, 0.238, and 0.277 per cent.

Twenty units of insulin given with 1.2 gr. parathyroid. Blood-sugar: 0.329, 0.236, 0.195, 0.149, 0.125, 0.094, and 0.081 per cent.

Case 3: Twenty units insulin given alone. Blood-sugar: 0.362 per cent, missing, 0.214, 0.156, 0.172, and 0.224 per cent.

Twenty units insulin given with 1 gr. parathyroid. Blood-sugar: 0.339, 0.246, 0.182, 0.125, 0.107, 0.091, 0.088, and 0.122 per cent.

Case 4: Fifteen units insulin given alone. Blood-sugar: 0.284, 0.243, 0.216, 0.153, 0.167, and 0.202 per cent.

Fifteen units insulin given with 0.6 gr. parathyroid. Blood-sugar: 0.322, 0.246, 0.191, 0.153, 0.124, 0.104, 0.118, and 0.143 per cent.

Case 5: Fifteen units insulin given alone. Blood-sugar: 0.410, 0.326, 0.229, 0.277, 0.229, 0.242, and 0.283 per cent.

Fifteen units insulin given with 1 gr. parathyroid. Blood-sugar: 0.356, 0.288, 0.231, 0.177, 0.143, 0.119, and 0.106 per cent., and after a four hours interval, during which she was given 20 grams of carbohydrate, 0.259 per cent.

In connection with the above we wish to emphasize two points: (1) That the parathyroid evidently is *not inert* when given by mouth, contrary to past comments by some, and (2) that we are getting into pluriglandular considerations again. Forrest's conclusions are restated: "From the above cases it is evident that parathyroid extract exerts a very definite action on the blood-sugar curve after exhibition of insulin. Whether this will be of any importance as regards treatment is not yet clear. Parathyroid alone does not appear to have any action on the blood-sugar; such changes as have been noticed could easily be explained as the result of starvation. Further investigations should be carried on to ascertain the therapeutic possibilities of the combination."

CHANGES IN SEX MORALITY AMONG WOMEN

Has the wider acceptance of the single standard of morals brought with it a greater degree of chastity among men, or has it meant largely a loosening of the stricter code of sex morality formerly applied to women? Many recent writers incline to the latter view, even those who agree that the slogan "Down with the double standard" was intended, at first, to signify a raising of the male, rather than a revolutionary changing of the female standards.

In *Current History* (November, 1923), Alyse Gregory, writing on "The Changing Morality of Women" calls this looser moral attitude in women "a state of affairs the existence of which can no longer be denied." She traces standards through the Middle Ages and the Victorian Era and, after describing changes brought about through the invention of machinery, she closes her discussion with a few paragraphs on the effect of the war and on the "more tolerant standards" now prevailing.

Of the after-war period down to and including the present, the author says:

However unwilling one may be to acknowledge it, girls began to sow their wild oats. Women of the aristocratic upper class and the poorest women had never followed too rigidly the cast-iron rules of respectability because in neither instance had they anything to lose by digressing. But for the first time in the memory of man, girls from well-bred, respectable middle-class families broke through those invisible chains of custom and asserted their right to a non-chalant, self-sustaining life of their own with a cigarette after every meal and a lover in the evening to wander about with and lend color to life. If the relationship became more intimate than such relationships are supposed to be, there was nothing to be lost that a girl could not well dispense with. Her employer asked no questions as to her life outside the office. She had her own salary at the end of the month and asked no other recompense from her lover but his love and companionship. Into the privacy of her own sung and pleasant rooms not even her mother or her oldest brother could penetrate, for she and she

alone, unless perhaps one other, carried the only key that would fit the lock.

That this picture is a limited one however, she admits, and one of her conclusions is that many, even those who now revel in the new freedom, will find that marrying is worth while.

This is not to imply that over vast stretches of the United States, and certainly in the small towns and villages, young girls and women in bourgeois homes are not living lives of impeccable chastity, but in the great cities in those circles where women from twenty-five to thirty-five can control their own purse strings many of them are apt to drift into casual or steady relationships with certain men friends which may or may not end in matrimony. Undoubtedly in time these men and women will rediscover that monogamy has after all its many advantages, but it is unlikely that the Western World will ever again ask of women that strictness in behavior which it has never demanded of men. On the other hand certain unfair privileges still accorded her under the law will undoubtedly be changed, as will those laws which discriminate against her.—*Journal of Social Hygiene*.

A MAN PREGNANT WITH TWINS

To the "Corriere Italiano" (Rome) we are indebted for the following interesting report:

A few weeks ago there represented himself in the General Hospital of Belgrade (Serbia) a sturdy young peasant by the name of Zivota Zabovich, aged 22 years, complaining of severe abdominal pains.

Examination revealed an enormous abdominal protuberance of unknown origin which called for an operation.

Dr. Hosic, a surgeon of world-wide fame, opened the patient's abdomen and excised a voluminous tumor containing two masculine fetuses, 25 centimeters (10 inches) and 13 centimeters (5 inches) long respectively.

The larger fetus had a well developed head, mouth with two teeth, neck, thorax, left hand with six fingers and long nails. The smaller fetus was quite shapeless, but it had two large eyes as hard as bone.

The rumor of this extraordinary case spread like wild-fire through Belgrade, attracting an immense curious crowd, which was eager to see the "pregnant man" and had to be driven away by the police.

The doctors, dumbfounded by this strange pathological phenomenon, advanced all kinds of theories, the most plausible of which seems to be the following:

The mother had conceived triplets, the strongest embryo developing normally and being born at term, after it had absorbed and incorporated the two other embryos, which Zivota had carried in his abdomen for nearly 22 years without any inconvenience till the onset of pains which brought him to the hospital.

The development and growth of the two fetuses in their brother's body represent an enigma which science is unable to solve.

Zivota stood the operation well and had an uneventful recovery.—*Critic and Guide*.

THE RELATION OF KLEPTOMANIA TO SEXUAL EMOTION

Edward Podalsky (*Med. Rev. of Rev.*) writes that a familiar enigma to the general public nowadays is the rich woman shoplifter who steals, not for the purpose of obtaining an article that she cannot obtain in any other way, for usually she quite easily can get by purchase what she desires, but who steals merely for the love of stealing. She has puzzled judges and lawyers, and the public has been at a loss to account for her anomalous conduct. Certain students, among them Contemps, Duboisson, Letulle and Losegue have made enquiries into this species of strange behavior and have contributed a great deal to the science of sexology on the relationship that exists between this phase of kleptomania and sexuality. In each instance of the investigation the subject has declared that she was governed by some unknown power that caused her to take the object.

Stekel (*Journ. Am. Inst. Crim. Law and Criminology*), the eminent Austrian sexologist, has put forth the claim that the root of these cases of kleptomania is an ungratified sexual instinct. These women have to put up a terrific fight against temptation. Their unsocial conduct is actuated by sexual desires. Thus Healy says: "The interpretation of the causes of this impulse to steal is of great interest. We have shown in our chapter on the mental conflicts how it may be a sort of relief phenomenon for repressed elements in mental life. The repression is found often to center about sex affairs." And again he says: "The correlation of the stealing impulse to the menstrual or premenstrual period in woman leads us to much the same conclusion. Gudden, who seems to have made the most careful studies between the two phenomena, maintains that practically all cases of shoplifters whom he examined were, at the time of their offense, in or near the period of menstruation."

By no means is the relationship between kleptomania and sexual emotion confined to women alone. Men have been subjected to the same phenomenon. Glueck (*Criminal Science Monograph*) reports an interesting case in this connection. A colored boy, age 23, was admitted into the Government Hospital for the Insane from the District Jail, where he had been awaiting trial on two indictments for larceny. He began to steal at an early age and it was during this first act of stealing that the patient experienced a feeling akin to sexual emotion. Later he began to steal objects for which he had absolutely no use, as, for instance, on one occasion he made away with a dozen bricks. He was apprehended and served a prison sentence more than once, but his mania for stealing could not be stayed. His father tried to break him of this habit by supplying him all that he might desire, but this was of no help. He stole for the love of stealing, for the intense emotion and excitement he experienced while stealing.

Even during his stay in a reformatory he would steal anything he could lay his hands on, although the articles were of little or no use to him. After steal-

ing them he made no attempt to hide them, and when he was detected he would acknowledge his theft and say that he was impelled to his crime by some indefinable force. During his stealings he experienced peculiar bodily and mental feelings, and in his own words: "I begin to feel giddy and restless, and feel as if I have to do something. This feeling gradually becomes more marked until I am compelled to enter a house and steal. While stealing I become quite excited, involuntarily begin to pant, perspire and breathe rapidly as if I had run a race; this increases in intensity and then I feel as if I have to go to the closet and empty my bowels. After it is all over I feel exhausted and relieved." His feeling of exhaustion and relief was in a later interview with Glueck described by the patient spontaneously as being such as that one experiences after coitus.

A dream was reported by the patient that Glueck thinks of some importance. He dreamed that two of his brothers came to see him while in prison. They brought with them a young girl whom he recognized as one with whom he used "to keep company." They told him that if he would marry her they would get him out. He refused, and one of his brothers said: "Then you will never get out of this place." They quarreled, the brothers insisting that he marry, and he refusing. In parting one of his brothers said: "Then go to your ruin; we will never do anything for you again." This dream is interpreted by Glueck to read: "Lead a heterosexual life and your troubles will be over; continue as now, you will go to ruin."

Were this sexual aberration more widely understood, judges on the bench would look with more sympathy on malefactors of this kind, and instead of sending them to prison, would send them to a hospital where their conduct might be studied and advice offered.

GONORRHEAL INFECTION OF THE FEMALE GENITALIA

Dr. David R. Ulmer in the *Indiana Medical Journal*, December, 1923, says:

In looking over the field of infection in the genital tract, it seems impossible to mention any more than a few points, consequently I am limiting this paper to "Gonorrhea of the Female Organs." Just how often it occurs, or what percentage, it is hard to say. Various authors have given different statistics, but it probably runs between sixty and ninety per cent. When it affects the urethra, the disease is slight and attracts but little attention on the part of the patient, since the more serious symptoms of ascending gonorrhea often do not appear for weeks or months after the primary urethritis.

The endocervix holds the second place, while the vagina is rarely infected except in the young. It is only natural and logical that the urethra be first attacked for the fact that the epithelium of the meatus in the female as in the male is a very favorable medium for the gonococcus and is the first point to be exposed during coition, thus the urethra is affected first and the cervix secondly. However, both may be

infected at the same time, or the cervix in some cases may be infected first. While I would not attempt to make a diagnosis without the microscope, yet very often the vulva is quite characteristic.

The labia minora and vestibule are reddened, swollen and tender and usually bathed in pus. The meatus is swollen and pouting. Very often from the urethra you can also express pus in which can be found gonorrheal diplococcus in abundance. At this time we should also look for infection of the glands of Skene, and the Bartholin glands. It is always best, before trying to express any pus from these glands, to wipe the field thoroughly and watch for the little beads of pus from the Bartholin glands near the remnants of the hymen.

In some cases a developing urethritis is much the same in the female as in the male with a burning, itching sensation. However, many more cases may only experience a very slight discomfort such as women may experience from concentrated urine. The swelling in and about the urethra, vagina and cervix creates a feeling of pressure and very often a patient thinks she has some malposition of the uterus. The disease has but little tendency to affect the urinary tract if proper treatment has been carried out. In most cases of acute gonorrhea we find that the disease disappears within three to six weeks but, of course, there is always a tendency to cronicity and when this happens it is usually associated with inflammation of Skene's glands and a long drawn out persistent urethritis. We find these conditions very difficult to cure. Often these cases develop mixed infection and last a long time after the gonococcus has ceased to appear.

The treatment of urethritis and vulvovaginitis is very much the same as treatment in the male. Restricted diet, rest in bed, alkalis, forced fluids and sitz-baths. It is a good thing for a patient to have a hot solution of Potassium Permanganate to sit in for fifteen minutes at a sitting several times a day, at the same time dividing the labia majoria. When acute symptoms subside then silver nitrate or some of its preparations may be used through the endoscope in the urethra, or you can use an ordinary urethral syringe, the same as used by the male. If the bladder is involved and cystitis has developed you should irrigate the bladder. I have made it a practice to leave one ounce of a 10% Argryol solution in the bladder. Treatment of the bladder given every day if possible. If there are erosions or patches of congestion, I use a 3% cocaine to the surface of the urethra and then a 2% silver nitrate solution to affected parts. The pudential hair should be kept scrupulously clean with soap and warm water and an alkaline solution. For treatment of the cervical canal, place a speculum, sponge the vagina dry and clean the cervical canal. I use a small cylindrical brush made for cleansing test tubes for the cervical mucous plug, then take a pledget of sterile cotton dipped in 2% silver nitrate and swab the entire vagina, also using a small swab of 4% solution in the cervical canal, then placing a tampon thoroughly satu-

rated in 2% silver nitrate solution. If you are unable to see the patient every day there are many suppositories of silver nitrate on the market you can allow the patient to use. First use a hot normal salt solution followed by a sterile douche and then the suppository.

I might say in passing, we very rarely have a stricture in the female urethra, and when we do have one it is treated very much the same as in the male. The Bartholin glands may become infected primarily, but this is rare and they are very rarely infected by another organism than the gonococcus, consequently when you find a Bartholin abscess you can nearly always class it on the gonococcus side. The infection usually takes place in ducts and then travels to the glands themselves. These are racemose glands and are very good soil for gonorrhea. These, too, often become infected with other pyogenic organisms. In time these organisms kill out the gonococcus and will extend to the middle part of the gland and an abscess is the result. We most often find only one gland infected, but occasionally both.

Correspondence

A PRACTICAL SUGGESTION FOR DEALING WITH MEDICAL CULTS

Chicago, January 30, 1924.

To the Editor:

During the month of November we ran across two timely articles upon the subject of Medicine and the Cults.

In the *Boston Medical and Surgical Journal*, Oct. 25, 1923, there is a report of the committee of the Massachusetts Medical Society who investigated, at first hand, some of the cults. Attempts were made, for instance, to study cases in parallel by both orthopedic and "osteopathic" methods. About one hundred and eight cases were studied in this manner. "One or more so-called osteopathic lesions were detected at various points along the spine in each case," says the report, "but there was no specificity of location of the lesion for a given disease." The osteopaths, working independently, agreed on the location of the lesion in only 12.5 per cent of cases. The committee concludes, therefore, that the study seems to show not only that the osteopathic lesion is a difficult one to detect even by experienced osteopaths, but also "feels that considerable doubt must be thrown upon the theory of osteopathy."

How can we teach, in a practical manner, the fallacies of the cults to the public? Dr. E. H. Ochsner, in the *ILLINOIS MEDICAL JOURNAL*, November, 1923, offers a workable solution. He

suggests the distribution, among our patients, of a leaflet setting forth first, facts about all the cults, and second, a few of the accomplishments of the medical profession. This leaflet has been prepared by the order of the Council of the Illinois State Medical Society and is now available and can be secured by writing to Dr. Wm. D. Chapman, Silvis, Illinois, Secretary, Illinois State Medical Society, or from the secretaries of the Component County and Branch Medical Societies. Dr. Ochsner recommends that when a patient comes to the office making inquiry about any of the cults, the patient be handed one of these reprints and asked to carefully read it. In this way much valuable time and unnecessary controversy is avoided and the inquiring patient will actually get reliable information as to what the medical profession stands for and what it has accomplished in the prevention and elimination of disease and how inadequately prepared to treat human ills all of the cultists are.

O. E. NADEAU.

DIDN'T LIKE TO DISTURB THEM

James MacNee tells the following story to his close friends as one of a collection gathered when he visited his old home in Scotland:

There were four old Scotsmen, the remnant of a club formed fifty years ago, and they were seated round the table in the club room. It was five a. m., and Donald looked across the table at Dougal and said in a thick, sleepy voice:

"Dougal, d'ye notice what an awfu' peculiar expression there is on Jock's face?"

"Aye," says Dougal, "I notice that. He's deed—he's been deed these four hours."

"Whet? Deed? Why did ye no tell me?"

"Ah, no-no-no," said Dougal, "A'm no that kind of man to disturb a convivial evening."

THE CHANGING VIEWS IN MEDICINE

The Chicago Med. Record (September, 1923), in quoting Barry, calls attention to the astonishing change in the relation between doctors and the world that has taken place during the past half century. Once they were concerned almost wholly with the body. They placed their chief reliance on drugs. The mind and the spirit they left to the educators and to the clergy. With the decline in the appeal of religion, so notably illustrated, for example, by the popular indifference today to the reading of the Bible, the doctors began to take on something of the authority so long held by the church and by the schools. At the same time they were beginning to appreciate as they had never done before the way the body and the mind work together and influence each other.

Original Articles

THE SYMPTOMS OF NEPHRITIS AND THEIR BEARING ON TREATMENT.*

O. H. PERRY PEPPER, M. D.

PHILADELPHIA.

It is wise to take stock occasionally of our treatment of a disease, to question ourselves as to the reasons for each part; in an unprejudiced manner to judge its efficacy; and to attempt to make plans for its improvement. When the disease has a known etiology, and we are in possession of a more or less specific therapeutic agent which gives us satisfactory results we can feel well satisfied. But when we are dealing with a diseased condition the cause or causes of which are still in doubt and the treatment of which, far from being specific and satisfactory, is but symptomatic and unsuccessful, we should not feel satisfied until we have reviewed the present situation to the best of our ability. This it seems to me is the status of our treatment of nephritis to-day.

Certainly we have no specific curative agent for nephritis, and our treatment is largely symptomatic. It is of great importance, therefore, that we should study its symptoms and try to learn their origin if we are to employ them as a basis for treatment. Before going further, let me explain that I am using the term "nephritis" to mean an acute or chronic disease, progressing eventually to an alteration in the chemical composition of the blood, to a disturbance of the elimination of waste products from the body and to conspicuous pathological changes in the kidneys. The disease which we call nephritis exists for a longer or shorter time before any disturbance of elimination appears. It is all important that we differentiate in our minds this stage of nephritis from the stage of disturbed elimination. We must still be satisfied to interpret this failure of elimination as renal insufficiency, although it may have a much deeper significance.

It may sound elementary to suggest that we should review the symptoms of nephritis; they are given in every text-book and we are each of us familiar with them, and yet I believe that an analysis of these well known symptoms from this special point of view will yield us something of

value in clarifying our ideas of the treatment of nephritis.

Now what are usually accepted as symptoms of nephritis in general without limiting ourselves to any one form of the disease? Certain prominent ones come to mind at once—edema, headache, convulsions, for example, and there are many others. Their variety is well exemplified by the following list which represents the chief symptom or general complaint of each of two hundred consecutive cases of nephritis admitted to the Hospital of the University of Pennsylvania. Edema was the chief complaint in thirty-four cases, dyspnea in twenty-eight, headache in twenty-four, weakness in twenty-two, disturbed vision in fourteen, convulsions in eleven, pain in the back in ten, and vomiting in nine. Albuminuria and thoracic pain were given as the chief complaint by eight patients each, abdominal pain by six, "out of sorts" by three, indigestion by three. Palpitation, drowsiness, epistaxis, cough and vague pains were each the foremost complaint in two cases, and nausea, dizziness, dysuria, aphasia, "mental change," hematuria, insomnia, enuresis, melena, and spasm of jaws each in one case.

This list is quite inclusive and the only important symptoms omitted are diarrhea, tinnitus and pallor. With these added the list contains practically all the symptoms usually described as occurring in either acute or chronic nephritis.

Thus far I have used the phrase "symptoms of nephritis," but now I wish to discuss the question as to whether, strictly speaking, these so-called symptoms of nephritis are truly so. Are many of them actually not symptoms of renal insufficiency rather than of nephritis itself? This may seem a quibble, but to me it seems an important distinction. To make my thought clear let me draw an analogy between nephritis and renal insufficiency on the one hand, and endocarditis and cardiac insufficiency on the other.

For years we have been accustomed to differentiate clearly between symptoms of endocarditis itself and symptoms and signs of cardiac weakness or decompensation. During the period of the actual endocarditis the symptoms vary with the type of process present, rheumatic, streptococcal or syphilitic. The symptoms may be marked or inconspicuous; the symptoms of the primary infection may dominate the picture and our at-

*Read before the Inter-State assembly of the Tri-State District Medical Association, Des Moines, Iowa, October 29—November 1, 1923.

tention may be drawn to the heart only by tachycardia or pain, or by the discovery on examination of newly developed heart murmurs. At some later period, perhaps soon, perhaps not for years, the symptoms of cardiac decompensation, dyspnea, palpitation, edema et cetera, appear. These are not strictly symptoms of the endocarditis but of a weakening of the heart muscle under the handicap of the structurally damaged valves. The important point is that the treatment of the two stages is entirely different and this is universally recognized.

Now when we turn back to a consideration of nephritis and review the list of symptoms and signs which may occur in the various forms of nephritis we come to the somewhat startling conclusion that very few of them are symptoms of nephritis, strictly speaking, and that most of them are symptoms of functional insufficiency of the kidneys analogous to the symptoms—dyspnea, palpitation, edema, et cetera, of cardiac insufficiency.

Let us examine a few of these so-called symptoms of nephritis and see whether they should be classed as symptoms of nephritis itself or as results of the impaired action of the kidney.

Edema, which occurs so constantly in acute nephritis and in the parenchymatous or tubular types of chronic nephritis, is most probably the result of the failure of the kidney to adequately perform its function. Dropsy is an evidence of an impaired renal function rather than a symptom of nephritis itself.

For our purpose we may omit discussion as to whether the retention of water is primary, or is secondary to a retention of salt or to some disturbed state of the colloids of the body.

Dyspnea, which came second in our list of symptoms, may have a variety of causes and in a given case may be due to any one or several of these. It may be due to the action of some toxic substance upon the central nervous system or to some result of a failing circulation or perhaps to acidosis. These all find their origin in impaired kidney function. A variety of phenomena result from the accumulation of toxic matters in the body with a culmination in uremia and it does not interest us at the moment whether these toxic substances are normal to the body's metabolism and are retained in toxic amounts owing to the failure of the nephritic kidney to eliminate them or whether these toxic substances are only

produced in the body secondarily to abnormal processes in the kidney or liver, brought about either by the noxus which primarily caused the kidney disease, or by the results of the disease directly or indirectly.

The circulatory weakness which may explain wholly or in part the dyspnea which we are discussing, as well as many other of the phenomena observed in late nephritis, usually has its origin in the increased blood pressure and in the associated changes in the arteries and heart muscle. Kidneys, arteries and heart are so intimately interrelated that it is impossible to think of one without the other two. But dyspnea of circulatory origin can scarcely be considered strictly a direct symptom of nephritis.

Dyspnea may be due to acidosis which in nephritis is chiefly due to the failure of the kidney to continue its function of excreting the acid substances, for example, the acid phosphates, normally produced in the body. Here again the cause of the dyspnea resides in a failure of the kidneys to function properly.

Third in our list of symptoms comes *headache*, which occurred as a chief complaint in twenty-four of the two hundred cases. Here again possible toxic and circulatory factors may play a part, or the true explanation may be found in an albuminuric retinitis which in turn has a toxic origin.

As we proceed down the list we next find *weakness*, *disturbed vision* and *convulsions*. The same reasoning applies to these as to the symptoms already discussed.

Pain in the back comes next and presents a somewhat different problem. Sir James McKenzie,¹ in speaking of the symptoms of affections of the kidney, has written: "As in the affections of other glandular organs, there are practically no sensory symptoms evoked by disease of the kidney structure. Backache is sometimes put down as present in inflammation of the kidney, but, considering how frequent backache is, some doubt may be entertained whether the kidney is the cause. For a great many years I have carefully inquired into the symptoms in all sorts of cases of albuminaria, acute and chronic, and I could find no evidence of pain of any form referable to the kidney trouble. All the symptoms of kidney disease (apart from alteration in the size of the organ) are found in the chemical examination of the urine, in the

frequent micturition, or as the result of its impaired secretion on other organs and systems (vomiting, headache, convulsions, changes in the cardio-vascular system, dropsy)."

Mackenzie in this latter sentence expresses, although in a somewhat different form, the same thought which I am presenting.

Pain in the back, when it does occur in nephritis, may properly be considered a true symptom of the disease, but it should again be emphasized that pain is not of common occurrence and when it does occur it is less severe than is the common belief. Pain is of more frequent occurrence in acute nephritis than in the other forms and is probably due to the swelling of the organ from local hyperemia and edema. It may be stated quite positively that true renal colic never occurs from nephritis alone, nor does marked local tenderness.

The only other true symptoms of the nephritis itself are to be found in disturbances of urination and in alterations of the urine.

The former group are seldom seen, but frequency of urination is occasionally complained of in nephritis without its being dependent upon an increased amount of urine. Such frequency may even occur in acute nephritis with a diminished amount of urine, probably due to an irritating quality of the concentrated and abnormal urine.

Alterations in the urine, the occurrence of albumin, casts, red and white blood cells are in some measure present in all nephritis. These are true evidences of the nephritis, but these also may be considered evidences of disturbed renal function. Fixation of the specific gravity of the urine at a low level is a characteristic of chronic nephritis of the glomerular type with hypertension. It is a direct evidence of the altered function of the kidneys in this condition; an altered function which leads to the failure of the kidneys to properly rid the body of a variety of metabolic end products.

This list of the true symptoms of nephritis is brief yet complete; pain, alterations in the urine and disturbances of micturition. All the other symptoms which have been mentioned and many more can be clearly related to secondary results of disturbed kidney function.

Uremia with its variety of symptoms is wholly a toxic phenomenon, and an equally long list of symptoms can be explained on the basis of secondary circulatory disturbances.

If this is true then we may with propriety

state that almost all the so-called symptoms of nephritis are secondary results of the renal insufficiency induced by the nephritis and as such are comparable to the symptoms of cardiac failure following perhaps on a primary valve lesion.

As Moschcowitz² has written: "In the majority of instances what the clinician means is not nephritis but renal insufficiency."

Now when we turn to an analysis of our treatment of nephritis we find that two things at once appear. First, that the treatment is almost wholly symptomatic and secondly, that the symptoms which are the basis of the treatment are symptoms of renal insufficiency and not of nephritis.

What are the chief measures employed? Nephritis with dropsy is treated by reduction in the water and salt intake, by sweating and catharsis. Are not these but attempts to relieve the impaired renal function? In nephritis with nitrogen retention and a tendency to uremia, one restricts the intake of nitrogen-containing protein food and one attempts to increase elimination by the free administration of liquids and by sweating and catharsis. Again we are but lessening the load on a weakened function of the kidney. Different types of nephritis impair different functions of the kidney and our efforts to assist these impaired functions constitute what we are pleased to consider our treatment of this or that type of nephritis. We actually are not treating the nephritic process but are merely lessening the strain on whatever function of the kidney is sufficiently impaired for us to recognize the results of its impairment. This can all be included under the term "functional rest," and is analogous to the limitation of effort which constitutes rest for the weakened heart.

Do not think for a moment that I am decrying the value or need of such treatment, but it is important that we realize what we are accomplishing in such treatment, that it is simply rest—nothing specific, nothing directed at the nephritic process—nothing but the meeting of symptomatic indications. I think we often forget this and feel that by these various measures we are actually treating the nephritis. Of course, there may be terminal cases in which such treatment is all which can be done, but in all others it is all important that we should not ever be satisfied to do nothing but carry out such efforts to give functional relief. We must always

have before us a further goal. Prevention of the onset of the nephritic process in some, and the prevention of its advancement in others.

The prevention of rheumatic endocarditis depends upon the proper treatment of tonsillar infections, of acute rheumatic fever, of growing pains, of chorea. Acute septic endocarditis may prove to be occasionally amenable to mercuriochrome intravenously as introduced by Piper, subacute streptococcic endocarditis may occasionally recover under arsenic administration as reported by Capps. Syphilitic valvulitis can be prevented by appropriate antiluetic treatment given in the early stages. We do not wait for the development of edema, cyanosis and dyspnea to undertake these measures; they are treatments of endocarditis, not of the resulting cardiac insufficiency. Rest and digitalis are often employed in these cases, but are not thought of as being adequate treatment. And yet in nephritis with renal insufficiency we seem often to be satisfied to administer functional rest to the kidneys. What more should we do?

First, from the point of view of diagnosis we should try to diagnose nephritis, incipient, threatened or early, in the stage before the development of the signs and symptoms of kidney insufficiency. This may be impossible in some instances, but will often be possible if we try. It will be possible only if the symptoms of nephritis, and not those of renal insufficiency, are searched for and properly evaluated, just as the heart murmur is searched for and evaluated. There is a functional murmur and an organic murmur; there is a mild transitory albuminuria and a more persistent albuminuria associated with cases. The former type we may perhaps safely disregard, the latter must be considered of utmost importance.

We know when to search for heart murmurs. When should our knowledge of etiology of nephritis lead us to examine particularly for evidences of early nephritis, and to give weight to the finding of changes in the urine? At two periods especially; during convalescence from acute infections and in the early stages of the arteriosclerotic changes which physiologically or pathologically begin to make their appearance in middle age.

Among acute infections scarlet fever has received the emphasis, but apparently much less severe infections are far more insidious and dan-

gerous. Scarlet fever produces as a rule a nephritis of sufficient grade to be promptly associated with kidney insufficiency and so to be recognized. Acute tonsillitis, gastroenteritis, furunculosis, et cetera, commence a nephritis which in the early stages is seldom associated with any symptoms of renal failure and so often escapes notice. And yet the importance of these apparently minor infections as the starting points of nephritis is being more and more appreciated.

No case of acute tonsillitis of more than the mildest degree should fail to have a urine examination before being allowed to resume normal activities. Since being impressed with this fact I have examined the urines of a series of patients with simple tonsillitis and have been amazed at the marked evidences of renal irritation which are present in the urine. In such patients the urine should be examined repeatedly and they should not be considered well until the urine has returned to normal. The same line of reasoning applies to the patient with syphilis, and to the apparently healthy individual who is entering middle life.

Nephritis must be diagnosed before renal insufficiency develops if anything is to be hoped for from treatment. At this early stage one can hope for little help from any of the tests of renal function which we know today. The routine urine examination is probably of greater value. Only by early recognition can we hope to accomplish anything; the process must be halted before the renal damage is too great. If recognized early we may also recognize the cause; a causative acute infection can then be treated with greater respect, the convalescence prolonged, the recurrence avoided if possible. At the same time by control of diet and of fluid intake, by care of bowels, and by restriction of activity, the kidney is given as much functional rest as possible.

In an acute nephritis after the cause has ceased to be active, prolonged rest in bed with some limitation of diet often leads to an apparently complete cure. But one must be sure the cause has ceased to be active. In a case of acute nephritis following otitis media, I have seen the nephritic process continue until a symptomless infection of the mastoid air cells was eradicated. Judgment as to cure will have to depend upon the urine examination.

If the nephritis be of the type which appears to be related to arteriosclerosis and which ap-

pears insidiously in middle age then our efforts are directed at the removal of foci of infection, such as those about the teeth, tonsils and sinuses, at the improvement of dietetic habits, at the avoidance of constipation and intestinal indigestion, at readjustment of the activities of life which tend to impair general nutrition and vitality, with injury especially of the arteries and kidneys.

There is nothing new in all of this; it is what we do to-day, but we do it too late and often half-heartedly. And the reason, as I see it, is that we fail to diagnose nephritis until renal insufficiency forces itself on our attention and that then we treat the renal insufficiency and think that we are treating the nephritic process.

Prevention should be our primary ambition. Next in importance comes early diagnosis with appreciation of the cause. By appropriate measures in the early stage we may prevent the recurring insults which ultimately lead to chronic nephritis. By early recognition of the more chronic cases we may be able to avert the failure of renal function with its tragic outcome. Perhaps the future will give us some direct specific treatment of nephritis; this is improbable. Only by earlier and more intensive treatment is there hope of lessening the frequency and fatality of kidney disease.

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POST GRADUATE TEACHING*

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In presenting what I have to say I may remark that I am not trying to set forth a treatise on post graduate teaching but rather to point out some of the shortcomings, as it appears to me, of the present manner of teaching. I might also say that my remarks are rather in extension of those made a year ago when the time was so short that I could not present them clearly.

In various ways I learn of many physicians who would like to take post graduate work in one branch or another and they naturally look to the nearest large cities in the state or near as can be, thereto, that offer the work most conven-

ient to them. This means either St. Louis or Chicago as these are the only cities either in the state, or near, and Chicago being a part of our own state we naturally take some pride in its being a center of medical teaching.

So much for the locations. What about the students? They are men who, in most cases, are leaving their business and hoping to get the most they can for their time and money and naturally want it in the very shortest time that it can be done successfully. It is not a matter merely of dollars but the question of time is an important consideration. These men mostly have to be away from their families and their business and while losing the money at one end they are spending it at the other end of the line but the greatest cost of all is the time spent in the work and if this can be shortened to half or two-thirds of the usual time it means a lot to the busy physician.

Right here comes my first criticism. In all the inquiries I have made in the matter, I have been told that the student must spend at least six months in preparatory work before he could take up any of the operative or actual treatment of the cases. This preliminary work consists of the study of anatomy, physiology, pathology and possibly some other work, including dissection of the special parts. I think the dissection is all right since in the graduate courses there is not so much attention given to the more minute anatomy that is required for special work of the eye, ear, nose and throat and these parts are harder to get at than the grosser anatomy, and the graduate schools are not trying to make specialists out of all the students. But to spend six months in the special studies is too long for the average student and is a waste of time.

No one who is worthy of the name "student" takes up special work who has not spent many weary hours at home in this his chosen field of work and has the theory pretty well worked out and is ready for the application of all this preliminary work.

With a careful course of dissection the student should be put to the practical work where the teacher can see where the student is lacking in either work or knowledge and thus be ready to assist him in what he does not already know. I once heard a noted teacher of teachers express it thus: Instead of teaching "about the subject" teach the subject itself. One of the best ex-

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amples of this method of teaching that I have seen was in a technical school in New York City where the students were put at once to the work itself and given an intensive course of work for six months in the different mechanical lines and at the end of this time the students were better fitted for the work and could do it better than those who had spent twice the time in the old fashioned way. In this school they did not spend the time in teaching what the student already knew but centered on the things he did not know and they got the results.

In this special work the hardest thing of all is to learn what to do and what *not* to do. Perhaps the latter is the more important. In this intensive method the student learns much more from his own mistakes than he does from watching some skilled operator doing the operation for him.

I recall that last year when I was speaking of this feature of the subject I was criticised and the suggestion offered that a course of this kind would be topheavy and not successful. My observation is that the students who have spent so long a time in the prolonged courses to the neglect of the practical parts are the ones who have the topheavy course, for they fail in the diagnosis and judgment of what to do and—more important—what not to do in a great many of the cases that come to them. They are tempted to try operations which they can not do successfully and, many times, treatment would have been better for the patient and he would have suffered less.

We read at times the outpourings of some oracle who says that a surgeon should never be allowed to do an operation until he has learned to do it perfectly. Well, the world would be in a great fix if this theory prevailed and I think it would be a safe guess that the oracle himself never practiced the doctrine he preached.

However we may differ on this matter it is surely true that there is a crying need for shorter and more intensive courses and these given by men who are skilled in the art of teaching. This may sound like I am trying to make a personal stab at some particular teacher or teachers. It is not my intention at all to criticise individuals. On the contrary I may say that the lectures I have heard by the men who attend this section have been of the highest order and I have enjoyed them immensely but I do think that the

system of trying to make the student perfect in the preliminaries and letting him pass by with so little of the art of diagnosis and neglect of operative work and treatment is not the successful way of teaching and it should be corrected.

It seems to me that our large cities here in America should take more interest in this post graduate work and make the American post graduate work as good as any in the world. We beat the world in manufacturing, transportation and many other things and why not in medical matters? Further, I have wondered why cities like St. Louis, Indianapolis, Cincinnati and others do not take up this work, I have read that in Europe there are several cities of the size of those last mentioned where the post graduate work is splendid. Would it not be well to encourage such work in many cities here in this country?

THE DIAGNOSIS AND TREATMENT OF BRAIN INJURIES IN THE ADULT*

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In this paper, I shall limit myself to a consideration of the diagnosis and treatment of *subdural* injuries to the brain, often associated with fissured fracture of the skull, but not necessarily so. They constitute about 90 per cent of all the cases of injury to the head in civil life. I will exclude depressed fracture of the skull as well as extradural hemorrhage resulting from a ruptured middle meningeal artery or dural sinus, as these must be considered as separate and distinct entities.

I wish to stress, first of all, the fact that the *diagnosis* of sub-dural injury must be made *within 6 to 12 hours* after the accident in order to obtain good results in whatever form of treatment is to be instituted. Besides the question of preventing the death of the individual, the importance of an early diagnosis will be evident when it is called to mind that pressure anemia of the cerebral cortex of over 12 hours duration results in death of the delicate and highly specialized cortical cells. Once destroyed, they are never reproduced but are replaced by glia tissue.

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The destruction of a considerable number of these cortical cells produce mental and physical changes depending upon their location in the brain, and include dizziness, headache, irritability, changed disposition, epilepsy, paralyses, etc.

Following a severe confusion of the brain, the consequent swelling and hemorrhage of the brain cannot be accommodated within the limited area of the closed cranium. The brain is pushed against its rigid dural envelope compressing the vessels in the pia arachnoid and cortex. Intra-cranial tension is increased and remains above normal until the hemorrhage ceases and the edema of the brain subsides. During this period of three to five days, it is most important to reduce the increased pressure to save life and prevent sequelae.

The question then presents itself: How can this increased intra-cranial tension be discovered within 12 hours after the accident? The answer is very simple and easily understood. There is at the base of the brain and over the surfaces of the cerebrum and cerebellum and cord a water system fed by secretions from the ventricles. This is the cerebro-spinal fluid system, the circulation of which is necessary to life. All parts of this system are directly connected with each other and in injuries, pressure tests in any one part will be an accurate index of the pressure in any other part of the system. A hollow needle, inserted in the 4th lumbar interspace and connected with a mercury manometer will show the pressure on the cerebrum just as accurately as if the needle were inserted into the ventricles, the basal cisterns or the subarachnoid spaces. If there is hemorrhage into the subarachnoid space over any part of the brain, part of the blood will be diffused throughout the water system and will appear in the lumbar region if sufficient fluid is allowed to escape from the needle. In this simple expedient, then, of lumbar puncture we have an accurate index of intra-cranial pressure and a sure sign of hemorrhage. Lumbar puncture can safely be made as soon as symptoms of shock have subsided—usually within 2 to 6 hours after the accident. This is a *direct* examination of conditions with the closed cerebro-spinal system arrived at by puncture through one of the interstices between the spinal vertebrae and does not necessitate making an artificial or permanent opening into the cranium. In contra-distinction to this procedure for making a diagnosis of

intra-cranial pressure or hemorrhage, it is interesting to review briefly other procedures that have been called into use up to and including the present time.

Ever since Kocher's famous explanation of the four stages of intra-cranial pressure, the pulse, temperature, respiration and blood pressure have been taken as indices of intra-cranial pressure, and volumes have been written on the value of one or more of these symptoms as indices of trauma within the skull and they are used as reliable indications for surgical and medical treatment. This is accepted by many notwithstanding the fact that changes in pulse, temperature, respiration and blood pressure are all dependent on pressure on the medulla, which lies below the level of the tentorium. None of these symptoms reflects the pressure on the cerebrum, which may be present for many hours before the medulla is affected and is evidenced only by headache or unconsciousness. Following this line of reasoning, most text-books state that a pulse of 50 or less and a blood pressure of 110 or over, are indications for operative treatment. Rawling, in his admirable lectures on "Cranial Injuries," lays stress on *temperature* as an indication for the severity of the brain lesion and considers it of far more diagnostic importance than the pulse, respiration, or blood pressure. Von Bergman depended upon the *increase in Blood Pressure* as an indication for operative interference. Other authors consider the examination of the *eye grounds* as of supreme importance. Others rely upon the state of the pupils and upon the reflexes to determine the nature and extent of the injury within the skull. Still others await an x-ray examination and, if a fracture is found, consider this an indication for operation.

What objections are there to these dicta? The answer, I believe, can best be made by an allusion to a corollary that was exploded some 15 years ago in connection with the diagnosis of peritonitis following a ruptured appendix or ulcer. Twenty years ago we were taught that the symptoms of peritonitis were a wiry pulse and a Hippocratic facies. These secondary symptoms did appear as the patient was about to die because the early local findings of tenderness and rigidity of the abdomen were ignored in those days. It was no wonder that many of our patients died of peritonitis if we waited for these late symptoms of general toxemia before

operative intervention. Are we doing any different today if we wait for a slow pulse, a stertorous respiration, an increased blood pressure and temperature and an edema of the eye grounds, all secondary and distant symptoms of pressure on the medulla oblongata following pressure on the cerebrum by many hours? Is it justifiable to allow a patient, brought to us in an unconscious condition and with a history of injury to the head sustained, for example, in an automobile accident, to lie in bed, while pressure on his cerebrum is mounting, with orders for an ice cap to the head and the administration of a cathartic and perhaps a hypodermic of morphin to help mask his symptoms and then to expectantly await in the next 24 or 48 hours the late symptoms of pressure on his vital centers in the medulla? We might as well still look for the wiry pulse and Hippocratic facies in peritonitis and yet this treatment is advised today in many of our large hospitals. Is it any wonder that an operation done at this time has proven unsatisfactory? The poor results of late operation have forced some physicians to adopt the treatment of watchful expectancy. There are a few surgeons who have solved the problem by operation upon *every* case of head injury as early as possible with the result that many are operated upon unnecessarily.

The answer to this question in my opinion, is to determine the nature and extent of the cerebral injury by estimating the pressure upon the brain within the first 6 hours and if there is present a pressure of over 7 to 9 mm. of mercury as determined by the mercurial manometer and the spinal fluid is bloody, no time is to be lost in reducing the pressure. And it is important to note that if this increased pressure on the cerebrum is reduced and kept low for 3 to 5 days until the edema and hemorrhage of the cerebrum subside, the symptoms of pressure on the medulla never appear. The pulse does not become slowed, the respirations do not become stertorous, the blood pressure does not rise and the edema of the eye grounds does not appear. In short, the sequence of events, so beautifully portrayed by Kocher in his historic four stages of intra-cranial pressure never takes place. The only cases that show any of these symptoms are those hopeless ones in which the injury primarily affects the medulla and those cases usually die within 6 to 12 hours. The temperature usu-

ally rises in contusion of the brain but in itself cannot be depended on in the first 6 to 12 hours.

The treatment, therefore, must be directed against the increased pressure on the cerebrum. It must be *begun before the medulla is endangered* to prevent death or the late effects of gliosis of the cortex should the patient survive the medullary compression. Sub-temporal decompression done early in selected cases may relieve pressure locally for a time. But if much of the brain is involved at points distant from each other in the anterior and posterior fossae, as in contre-coup injuries, a decompression in the middle fossa will avail little. Especially if the brain bulges into the subtemporal opening and effectually plugs it. Moreover, the resultant defect on the skull is a permanent one with all its attendant dangers.

I have relied on lumbar drainage during the past five years to relieve pressure on the cerebrum and medulla and to withdraw blood and am more and more favorably convinced of its good effect as the years pass. As soon as the patient has recovered by appropriate treatment from the serious effects of shock—lumbar puncture is done with the patient lying on his side and held by an assistant. Pressure reading is first taken and if it is increased above the normal limits, 10 to 30 cc. of fluid is removed in 3 test tubes to lower pressure and to determine blood content. This is repeated in 6, 12 or 24 hour intervals depending on the rapidity with which pressure recurs. Usually the intervals can be lengthened after 24 or 48 hours and the pressure returns to normal in three to seven days. Consciousness returns and headache is lessened after subsequent drainages. I and my assistants have performed about 5,000 lumbar punctures in the last five years—as many as 10 to 15 in those cases of more severe type—and I have not yet seen one in which sudden death occurred as a result of herniation of the medulla into the foramen magnum. That this does occur, in cases of *brain tumor*, there is no doubt, but it should not be used as an argument against drainage in cases of *acute cranial injury*. And yet so ingrained is this idea in the minds of internists and surgeons that one hears it mentioned repeatedly. (It is curious to me that many of us do not hesitate to advise an operation that leaves a permanent defect in the skull with all its immediate and remote dangers when the same

men will balk at so simple a procedure as lumbar puncture and drainage.)

We have, at the Cook County Hospital, from 400 to 500 cases of injury to the head each year—the great majority being automobile accident cases. Each year the number increases. Where the mortality ranged between 50 to 60 per cent under the old treatment of late operation or watchful expectancy—with early diagnosis and treatment by lumbar drainage this has been reduced about one-half to 25 or 30 per cent. Moreover, the late effects—commonly looked upon as traumatic neurosis—with dizziness, headaches, change in disposition, inability to work or to withstand extremes of temperature or the effects of alcohol, epilepsy, paralyses, etc., have been greatly reduced.

SOME HIGH LIGHTS ON GOITER*

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A comprehensive discussion of goiter would not alone be time consuming, but bore you with a repetition of facts commonly known. In high lights on goiter it is our intention to lay emphasis upon outstanding features of practical value rather than unproven theories.

Through the work of Marine and Kendall, it is usually accepted that the chief function of the thyroid is to split up iodine compounds which have gained access to the system and to convert them into a specific thyroid product—thyro-iodine or thyroxin. Dr. C. H. Mayo predicts that it probably will be proven that the iodine for the gland is derived from the indol of the colon. The iodine is stored in the thyroid and discharged to meet the body needs. In this connection it is interesting to note that in exophthalmic goiter there is an absence of iodine, presumably due to the great overactivity of the gland in sending out its specific or altered product. As it is known that iodine increases the function and electric conductivity of the brain, also that the thyroid is the source of the iodine, Crile concludes that the function of the thyroid is to act as a controller of the electric conductivity of the brain—its sensitivity and activity—and therefore a controller of basal metabolism. His stand seems well taken when we bear in mind cases of myxedema with their dull brains, heavy

bodies and sluggish movements on the one hand and on the other, exophthalmic cases of excessively sensitive brains, loss of weight and exceedingly active bodies.

The cause of goiter cannot be attributed to any one agent and is perhaps due to a combination of two or more circumstances as, lack of iodine, fetal inclusions, infections thyroidal or extra thyroidal, adolescence, menstruation, pregnancy and lactation.

The lack of iodine in childhood probably accounts for the endemic regions being far distant from the sea water of the coast, as the Great Lakes region of America, Switzerland of Europe and the Himalayas of Asia. Its greater prevalence today is likely due to our not administering Spring and Fall tonics, which were chiefly of iodine, as did our predecessors in the practice of medicine.

It is more prevalent in women because of the added stimulus given the gland as evidenced by its enlargement at menstruation, pregnancy and lactation.

Infection, whether it be in the duodenum or colon, as thought by McCarrison, or in the teeth, tonsils or lungs, may be an exciting cause. We all have noticed how the early tubercular case may present slight fever, tachycardia, tremor and loss of weight, symptoms common to the hyperthyroid patient.

For clinical purposes goiters may be classified as follows:

1. Simple goiter which includes the hyperplasias of the gland seen in adolescence. These rarely present symptoms but may become unsightly.
2. Colloid goiter usually symptomless except for pressure on adjacent structures.
3. Adenomatous goiter, single or multiple, cystic or calcified, sometimes suddenly enlarge from intra-glandular hemorrhage and sometimes have periods of toxicity.
4. Exophthalmic goiter, hyperthyroidism or thyrotoxicosis; more properly an altered thyroid secretion with its presence of extremely slight or quite marked enlargement of the gland, tremor, tachycardia and perhaps some degree of exophthalmos.

The goiter case will present itself for examination because of the predominance of some one of the following signs or symptoms: unsightliness of the neck, pressure symptoms about the

*Address, Effingham County Medical Society, Nov. 13, 1923.

throat or neck, nervousness and weakness, palpitation of the heart, undue prominence of one or both eyes, loss of weight and sometimes diarrhea. On examination the case may be found to have one or all of the symptoms just enumerated.

Pressure symptoms are caused not so much by the size of the goiter as by its location. A mass an inch or inch and a half in diameter slightly dipping under the sternum or clavicle may give more annoyance from pressure on the trachea than a larger growth. A goiter broadening the neck but not unduly prominent anteriorly may produce a paralysis of the brachial plexus, or by pressure on recurrent laryngeal nerve paralyze a vocal cord recognized only as a hoarseness after considerable use of the voice. Without any fullness in the thyroid region there may be a cyanosis of the face and tortuosity of the veins of the neck and upper chest from a sub-sternal goiter.

The nervous case complains of weakness and "nervousness," is vague in giving a description of the symptoms, occasionally presents mental peculiarities suggesting a border line insanity case. Frequently the examiner will turn aside to hide his disgust at being annoyed with another so-called "neurotic." If the patient is asked if the nervous feeling is in the nature of an internal quiver there is a ready response of "yes." The examination will reveal usually a fine, sometimes a coarse, tremor of the extended fingers and the other symptoms of hyperthyroidism which will lift the case out of the class of the neurasthenic or the hands of the alienist.

One of the great fears of the human race is that of heart disease associated with which is the common subjective symptom of palpitation. The patient with this symptom is alarmed about the palpitation but not especially disturbed over the pulse rate of 90 to 150 or more, or arrhythmia. The heart examination shows a flappy character to the heart tones, murmurs more frequently over the base and varying degrees of enlargement of the cardiac area.

Prominence of the eyes does not often cause the case to be examined unless of marked degree or where the protrusion of one is much more noticeable than the other. In the later case the oculist may suspect a tumor of the orbit.

E. P. Sloan has called attention to a high sustained pulse rate out of all proportion to the tem-

perature curve as a toxic goiter symptom in differentiation from tuberculosis. Also that the presence of tuberculosis is no contraindication to operation. Recurring attacks of diarrhea may lead the patient and examiner to suspect a chronic colitis.

Loss of weight and weakness may cause a case to seek examination for early tuberculosis. E. P. Sloan calls attention to the fact of the goiter case carrying a pulse rate out of proportion to the temperature curve. Recurring attacks of diarrhea may lead the patient and examiner to suspect a chronic colitis.

The hyperthyroid case will present some or all of these symptoms with an enlargement of the thyroid. This enlargement may be so slight as to raise a doubt in the mind of the examiner that so small a thing can produce such pronounced symptoms. Yet we are frequently amazed at the large size of a goiter on operation that seemed so small on external palpation.

Basal metabolism rate is increased in the hyperthyroid and may be of assistance in diagnosing border line cases. For determination of operability or prognosis it is of little value.

Marine's study of the effect of iodine on school children in Akron, Ohio, has made it possible to prevent goiter in children of goitrous regions. Iodine should be properly administered to the pregnant mother and to the child up to and through the period of adolescence. It should be borne in mind, however, that iodine exerts little or no benefit in goiter after the age of twenty-five. In addition it is believed that the use of iodine or thyroid products may cause many a quiescent goiter and especially adenomas to become hyperthyroid or exophthalmic. C. H. Mayo states that the administration of iodine for a short period of time to exophthalmic cases may temporarily improve the symptoms.

From the pioneer work of Theo. Kocher to the efforts of our present day surgeons the surgical treatment of goiter has been robbed of its terrors, high mortality and made comparatively safe. In our own limited series of 240 cases of all types including one carcinoma which was operated on eleven months ago and still living without apparent recurrence, we lost one case in twenty-six hours from hyperthyroid reaction and one four weeks after ligation from acute dilation of the heart. The prompt and marked improvement in symptoms and early restoration of

the individuals to usefulness has made this one of the most gratifying of surgical procedures.

Lahey's technique of thyroidectomy preserves the para thyroids, recurrent laryngeal nerves and leaves behind a predetermined amount of thyroid tissue. De Quervain's bilateral longitudinal separation of the pre-thyroid muscles makes the high superior pole cases easily accessible. His method of ligating the superior and inferior thyroid arteries preliminary to delivering substantial goiters has made these cases almost bloodless.

To summarize: Any goiter may produce pressure symptoms due to the location of the growth rather than its size.

Goiters other than the adolescent hyperplasias and colloids may intermittently or continuously produce hyperthyroidism.

That the size of the goiter is in no way indicative of its toxicity.

The presenting symptoms of weakness, nervousness, palpitation, undue prominence of the eyes, loss of weight or digestive disturbances may have as an underlying factor hyperthyroidism.

The endemic form of goiter is preventible by the administration of iodine.

That the low mortality rate of surgical interference with prompt improvement of symptoms make it the choice of treatment for the hyperthyroid cases.

Citizens' Trust Building.

THE STATUS OF EPIDEMIC ENCEPHALITIS AS AN INDEPENDENT DISEASE*

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CHICAGO

The clinical and histological features of epidemic encephalitis have become so well recognized as constituting a fairly definite nosologic unit that the disease is now generally accepted as a specific infectious disease, although no agreement has been reached as to its etiology. Until the etiology of this disease, and of poliomyelitis, and influenza, and perhaps some other infections has been definitely established there will remain some doubt as to the entire independence of one from the other. As far as poliomyelitis is concerned, however, the matter may be considered settled. To the many clinical and anatomic points of dis-

inction recent experimental work has added the observations that: (1) poliomyelitis, while readily transmitted to monkeys, is only with difficulty transmitted to rabbits, while the opposite is true of encephalitis (Levaditi: Kling); (2) poliomyelitis serum and previous poliomyelitic infection do not confer immunity to encephalitic infection (Levaditi: Amoss); (3) poliomyelitic virus inoculated on the cornea of rabbits produces no lesion, while that of encephalitis produces keratitis, and later, passing along the optic nerves to the brain, encephalitis (Levaditi).

Influenza and encephalitis. It is clear that the latter is not a mere sequel of the former as most of its victims have not had influenza. While in a general way epidemics of the two diseases have coincided in a striking manner, this is not a universal rule. Cases of encephalitis appeared in Vienna and probably in France before the influenza epidemic, and in many localities influenza had become rare when the encephalitis epidemic reached its height. The tendency to pneumonia and to leukopenia characteristic of influenza is lacking in epidemic encephalitis. Of great importance is the fact that the type of encephalitis most frequently seen as a direct sequel of influenza differs from the epidemic form by a greater tendency to hemorrhages and by not selectively involving the basal ganglia. Nevertheless, no matter how much we emphasize differences between the two diseases, we must admit some sort of relationship. Economo suggested that the encephalitis virus requires activation by that of influenza except that with poor nutritional and hygienic conditions as they prevailed in Vienna during the war such activation is unnecessary. It has also been suggested by Stern¹ that influenza produces a weakening of the vessel walls and increased permeability of the capillaries which predispose to localization of the encephalitic virus. Stern suggests also that pneumococci, streptococci and other bacteria in addition to the influenza virus may act as activating agencies.

Herpes simplex and encephalitis. This problem began to receive the attention of many investigators after the publication by R. Doerr² of the observation that some of the rabbits inoculated on the cornea with the contents of the vesicles of labial or corneal herpes developed various nervous symptoms, such as trismus, convulsions and par-

*Read before the Section on Public Health and Hygiene, Illinois State Medical Society, Decatur, May 16, 1923.

1. Stern, Felix: Die epidemische Encephalitis. Berlin, Julius Springer, 1922.

2. Doerr, R.: Klin. Monatsbl. f. Augenheilk., 1920, LXV, 104.

alyses. G. Blanc³ found that intracerebral infection in rabbits from vesicular contents in human herpes or rabbit's keratitis would cause fatal encephalitis which could be transmitted to a series of rabbits by injection of brain emulsions. Sometimes corneal herpes would reappear in these animals. Blanc and J. Caminopetros⁴ discovered that strong ocular reactions sometimes immunized rabbits against intracerebral injections. A relationship between lethargic and herpetic encephalitis suggested itself when Levaditi and Harvier⁵ observed the occasional appearance of corneal herpes in rabbits inoculated with human encephalitic virus. Doerr and Schnabel⁶, after succeeding in transmitting human epidemic encephalitis to rabbits, obtained subsequent passages by both the intracranial and corneal routes and demonstrated the existence of a crossed immunity between herpes and epidemic encephalitis as rabbits inoculated with one were immune to the other. Similar observations were made by Levaditi, Harvier and Nicolau⁷ who came out boldly with the opinion that the virus of the two diseases was identical, that the herpes being only milder than that of epidemic encephalitis. This view has been further enlarged upon by Levaditi in his recent book⁸ where he expresses himself about as follows:

In certain individuals, the saliva contains a specific filtrable organism whose virulence varies within very wide limits. In most cases it merely vegetates in the saliva without producing symptoms. In others it causes mild, more or less febrile disorders of the type of simple herpes, herpetic angina, or herpes of the cornea. Under certain conditions its virulence increases and it becomes capable of attacking the central nervous system. In addition to being "epitheliotropic" this virus becomes "neurotropic," passes through the barrier of the nasopharyngeal mucosa and, passing along the nerve paths, it reaches the brain and produces either larval or typical epidemic encephalitis.

More recently R. Doerr and W. Berger⁹ discussed the relationship (1) between the virus of epidemic encephalitis and that of herpes febrilis and (2) between epidemic encephalitis and influenza. They report positive crossed immunity

experiments with the virus of a new case of encephalitis and a very virulent herpes virus. The encephalitis virus was obtained from the brain of a physician with rather mild, but characteristic lesions. Only one of the rabbits inoculated developed cerebral symptoms which came on eight days after inoculation and caused death in a few hours. Brain material from this rabbit was virulent both by corneal and cerebral inoculation but animals infected with it were rendered immune to a strong herpes virus, which in turn protected animals against the encephalitic virus. The authors assure us that the animals used in these experiments cannot possibly have suffered from a spontaneous disease existing among rabbits. These authors endorse the view that the herpes-encephalitis virus is the cause of human epidemic encephalitis.

Their only contribution to the influenza-encephalitis problem is a report of failure on the part of blood from seven influenza patients to produce lesions on the cornea of rabbits.

C. Da Fano¹⁰ has made extensive experiments and endorses the view that all forms of herpes, with the possible exception of herpes zoster, may be considered as manifestations of an infectious disease *sui generis* and that the herpetic virus produces an encephalitis resembling that of the epidemic disease.

Jonas S. Friedenwald¹¹ states that herpes zoster is a well-defined clinical entity, but whether it is an infectious disease due to a specific organism has not as yet been proven to his satisfaction. On the other hand, his work has convinced him that simple herpes (herpes simplex) is due to a single specific infectious organism. He writes:

Simple herpes and the corresponding forms of herpetic keratitis have generally been regarded as symptoms rather than as a specific disease entity, symptoms that might be produced by any one of a number of different etiological agents. The frequent occurrence of herpes in various infectious diseases such as pneumonia, epidemic meningitis, malaria, multiple sclerosis, and infectious jaundice, as well as in many mild grippic-like infections, is well known. So also is the occurrence of herpes after intravenous and arsenical therapy, during menstruation, after dietary indiscretions, and even, as sometimes alleged, after emotional stress. It would seem difficult to assign any specific etiology to a condition which occurs under such a wide variety of circumstances, but it should be remembered

3. Blanc, G.: Compt. rend. acad. des sciences, 1921, CLXXII, 725.

4. Blanc and Caminopetros, J.: Compt. rend. soc. biol., 1921, LXXXIV, 767.

5. Levaditi and Harvier: Ibid, p. 300.

6. Doerr and Schnabel: Schweiz. med. Woch., May 19, 1921.

7. Levaditi, Harvier and Nicolau: Ann. de l'Inst. Pasteur, January, 1922.

8. Levaditi, C.: Ectodermoses Neurotropes: Poliomyelitis, Encephalitis, Herpes. Paris, 1922.

9. Doerr, R., and Berger, W.: Schweiz. med. Woch., August 31, 1922.

10. Da Fano, C.: Jour. of Path. and Bact., January, 1923.

11. Friedenwald, Jonas S.: Archives of Ophthalmology, March, 1923.

that herpes occurs perhaps most frequently as an isolated phenomenon, or at best associated with mild grippe-like symptoms,—congestion of the upper respiratory tract, slight general malaise, moderate psychic depression, and perhaps even a low fever. This last condition has sometimes been called “herpetic fever.”

He is particularly impressed by the report of K. Mayer¹² of an outbreak of “herpes labialis epidemicus” in an isolated company of troops. Five out of six officers and thirty of seventy privates were affected. A similar epidemic was reported in 1920 by Zlocisti¹³ who points out that there is a belief widely held among the laity that labial herpes is contagious and remarks that popular beliefs of this kind often are based on sound though uncontrolled observation and deserve more respect than is generally accorded them by the profession. The conclusions of the author, based upon experiments and study of the literature, are as follows:

1. Herpes simplex in both its corneal and facial manifestations is due to a specific virus.

2. This virus is found constantly in the lesions of herpes simplex but not in lesions of any other condition examined. It can be found in the herpes at the time of their earliest appearance, during the vesicular stage, and, at times, in late crusted lesions.

3. The virus is highly infectious for rabbits, causing in them a disease which in many respects resembles herpetic keratitis in man.

4. A certain number of rabbits whose corneae have been infected with this virus develop an acute and often fatal encephalitis.

5. The pathology of experimental herpetic keratitis in rabbits resembles that of herpetic keratitis in man.

6. The path of the virus from the cornea of a rabbit to its brain is probably along the sensory nerves of the cornea.

7. Treatment of experimental herpetic keratitis by the methods usually used in the treatment of herpetic keratitis in man produced no favorable effect on the course of the disease. The use of strong solutions of cocaine produced a deleterious effect.

Comment on the Herpes Theory. The only comment I wish to make on this theory by Levaditi, Doerr and their followers is one which already has been made by Stern, namely that if epidemic encephalitis is caused by an exceedingly common virus which exists in the mouth of a great many people without doing harm, then we are not so much interested in this virus itself as in the activating agency which suddenly enables it to produce a serious brain disease. We may even assume that the disease is spread by the transmission of the activating agency rather than

by the virus itself. In other words, this theory implies that encephalitis is the result of symbiosis and interaction of two or more microorganisms, or of certain biochemical conditions in the host of the ordinarily harmless virus. In either case the virus itself is to be compared to a revolver, sword or other weapon, itself a dead object which requires a directing hand and mind to cause injury to a human body.

Recent investigations in Sweden are very interesting and worthy of close attention as the work has been done largely by the same men whose work on poliomyelitis ten years ago was most important.

The leader of the work, C. Kling,¹⁴ first gives an interesting critical review of previous bacteriological and epidemiological work as well as the results of his own important investigations. He considers the diplo-streptococcus of v. Wiesner as now of only historical interest. He rejects the “globoid bodies” for various reasons. First of all he is suspicious of the first reported successful inoculation of a monkey by Strauss, Loewe and Hirschfeld, because: (1) others have failed in infecting monkeys, (2) the monkey became ill on the second day and died on the fourth day, making the period of incubation too short, (3) because of the prominence of hemorrhages in the brain and (4) the production of perivascular infiltrations in rabbits is not conclusive as it may be produced by a great many infections.

During the winter of 1920-'21, Kling and his associates studied an epidemic in a small community in Northern Sweden. The morbidity in the villages varied from 7 to 45 per cent, in some families nearly all members being affected. This high morbidity is explained by the presence of a large number of abortive cases, with febrile onset, mild catarrhal symptoms, headache, tenderness of the scalp, and rheumatoid pains. These mild cases are considered most important factors in spreading the disease, especially as there is no reason for suspecting drinking water, milk, or insects of playing any part. The period of incubation could be determined with apparent accuracy in three cases, and in each it was ten days.

Bacteriologic examination was made in 100 cases, among them twelve fatal ones. There was no success with 30 inoculations in monkeys. Rabbits are quite easily infected by intracerebral or ocular inoculation, but it is important to note

12. Mayer, K.: Schweiz. med. Woch., LI, July, 1921.

13. Zlocisti: Beitr. z. Klin. d. Infektionskr. u. z. Immunst.-getsforsch. 1920, VIII, 157-175.

14. Kling, C.: Hygiea, November 15 and 30, 1922.

that in the author's experience—unlike that of American and French observers—the disease in the animals was chronic and slowly progressive with slight symptoms even in the presence of marked histologic changes. A few animals died one to seven months after inoculation. The histologic changes in the brain usually appeared from three to five months after inoculation. If streptococci or other bacteria are present, the animals may die within a few days, but the pure virus can then be isolated by filtration or by preservation in glycerine. In most cases the experimental encephalitis in rabbits is a latent infection but sometimes cerebral symptoms resembling those in man were observed, such as spasticity, a catatonic state, paralyzes and salivation. The histologic changes are exactly like those in the human disease. No organisms were isolated and attempts to cultivate the virus on media were unsuccessful. The virus has been obtained from the brain substance, cerebrospinal fluid, pharyngeal secretion and intestinal contents. After reviewing the work of Swiss and French investigators (especially Doerr and Levaditi), Kling subjects their deductions to a searching criticism. When repeating their technique, he isolated two strains of herpes virus and one of them after corneal inoculation nearly always gave rise to an encephalitis. However, he found that the herpes virus differed from that of encephalitis in not being resistant to ether, and the encephalitis produced in rabbits by the herpes virus was more acute with appearance of polymorphonuclear cells in the meninges and cerebral cortex. While the herpetic virus produced an intense, purulent keratitis, that of encephalitis when inoculated into the eye produced only a transient keratitis. The corneal inflammation was followed by encephalitis within a few days after use of the herpetic virus while that of encephalitis only produced brain changes after four to six months. The encephalitis virus is inhibited by encephalitic convalescent serum, which is not true of herpetic virus. Kling found that encephalitis virus did not produce immunity to herpetic infection. He strongly suspects that both Levaditi and Harvier and Doerr and Schnabel really experimented with a herpes virus and not an encephalitic one. The rarity of herpes labialis in human epidemic encephalitis also speaks against the identity of the virus of the two diseases.

After emphasizing the tendency to late mani-

festations and chronicity in human epidemic encephalitis, the author looks with some favor upon the suggestion made in various quarters that both Sydenham's and Huntington's chorea, the so-called electric chorea, Parkinson's disease, and some forms of multiple sclerosis, especially the acute type, may be manifestations of epidemic encephalitis. Kling made inoculations in rabbits in five cases of postencephalitic syndromes more than one year after the acute stage and obtained positive results in three. He is inclined to believe that epidemic encephalitis is not a new disease, that it has existed in various chronic forms for a long time and that the appearance of epidemics in many places at the same time was due to the combination of several factors such as increase in susceptibility of the nervous system due to the effect of the war, and to the presence of other infections. Thus the early cases in Vienna were evidently complicated by streptococcus infection which led v. Economo and v. Wiesner to assume that a streptococcus was the cause of encephalitis.

Kling ends his paper with the suggestion that the virus of encephalitis may be of as great importance in the pathology of nervous diseases as the spirochaeta pallida. The fact that the virus can be passed from rabbit to rabbit makes it possible to study the effect of drugs, and the demonstrated inhibiting effect of convalescent serum offers a hope that serum therapy is within the range of possibility. It is possible that active immunization after the principle of Pasteur may be developed.

General Summary of the Situation. In spite of the building up of a varied, yet quite individual symptomatology, including numerous and very characteristic sequels, and of a definite, one may almost say pathognomonic, morbid anatomy, we must admit that the position of epidemic encephalitis as a disease *sui generis* is not absolutely secure. No exclusive microbic cause has as yet been generally accepted. The history of medicine is not lacking in instances of nervous diseases being "discovered," apparently shown to be clinical entities and possessed of a definite pathologic anatomy, yet proved to share their microbic cause with very dissimilar disorders of various parts of the body. I refer particularly to general paresis and tabes, parts of the protean disease syphilis, and the African "sleeping sickness," a manifestation of trypanosomiasis.

It is difficult to form an opinion on the rival

etiologic claims, but I have a feeling that the "globoid bodies" of the New York investigators and the diplo-streptococci described by v. Wiesner and later particularly by Rosenow really may be the same polymorphous organism. One group of investigators discard the full sized cocci as contaminations and filter them out while the others minimize the minute forms. As to the disease studied in rabbits by Kling, the very long incubation makes us suspect that he may be dealing with a spontaneous disease in rabbits. Unless the contrary is proven, it is best to look upon epidemic encephalitis as an entity, with the reservation that future investigations possibly may show it to be only one manifestation of a general disease. This we consider improbable.

DISCUSSION

Dr. Meyer Solomon, Chicago, in discussion of Dr. Bassoe's paper: There are just two or three points I would like to mention. With respect to the relationship of this disease to influenza, the thought that comes to mind is that many diseased conditions begin with fever and some symptoms of the febrile stage and that at the onset the individual who is about to get encephalitis might on like occasions get the febrile symptoms closely resembling influenza. Then perhaps because of getting out of bed too soon or for some reason or other the real disease presents itself in marked form so that we really have the preceding history of a pseudo-influenzal syndrome rather than influenza. It has not been proven that influenza must antedate this disease or that the febrile syndrome that we get here is really influenza. There is no doubt, though, that the organisms responsible for both diseases belong to a closely similar type. As to just what organism is the cause we will have to leave it to the bacteriologist and the research workers along that line.

The incubation period is important. Dr. Bassoe referred to the work by Kling and as he can read that language and I cannot and I have only an abstract of it, I think it would be interesting if he would present a little more concerning Kling's work. I think Dr. Kling showed the disease was transmitted from one person to another. He had an opportunity to study the incubation period and fixed it at approximately ten (10) days.

I would also be glad to hear what Dr. Bassoe would have to say about how health departments should handle this condition; how long the patient should be quarantined and how far we should go. In the city of Chicago at the present time the patient is isolated; no placards are put up; until the termination of the active symptoms the susceptible children are not permitted to go to school. I would like to hear just how far Dr. Bassoe thinks we should proceed with the quarantine of these cases.

Dr. I. D. Rawlings, Springfield, in discussion of Dr. Bassoe's paper:

I would like to hear from Dr. Bassoe as to how infectious this disease is and as to the period of quarantine. I can not help but think of the possibility of this disease having some relation to influenza. We know we are not getting all the cases reported to the city health departments or to the State Department but in 1920, '21 and '22 there were 653 cases reported during January, February, March and April the period when influenza was most prevalent.

I would like to ask Dr. Bassoe if he has anything in the way of statistics that may prove the direct relation between influenza and this epidemic encephalitis. The month of highest number of cases reported was January, during these three years when a total of 204 cases were reported and dropped in September to 12 which was the lowest. It was most prevalent in the first two months of the year according to our figures.

Dr. S. S. Winner, State Department of Health, Springfield:

I would like to say a few words about epidemic encephalitis. During the year of 1919 and 1920 I investigated some 200 cases of epidemic encephalitis. Now, the period of incidence, the time of year or the seasonal incidence in counter distinction to poliomyelitis was during the winter months as Dr. Rawlings recited here. In most of the cases I investigated, a history of influenza was obtained. In about 40 per cent of the cases influenza antedated the attack of encephalitis by about two weeks. In the rest, a majority gave a history of influenza sometime within a year. Here is one interesting feature, that preceding the attack of encephalitis there was a nervous disturbance of some kind, either mental or physical. Whether that had any relation to the attack or not I do not know.

About the secondary cases, the contacts and exposures. I was unable to find any secondary cases in the same family although they seemed to occur in the same neighborhood just like poliomyelitis. I remember of two cases in Oak Park, where one of the nurses in the Oak Park Hospital developed the encephalitis. I saw the case with Dr. Needham, of Oak Park, the local health officer. One of the girls in the hospital, another nurse, slept with this girl a few nights until she was isolated. The second girl developed encephalitis within two weeks. She had the oculo-motor disturbances and the somnolence; the only instance I had in my experience when I saw a secondary case develop in a direct contact in the 200 cases in my experience.

Dr. Bassoe, Chicago (closing discussion): The fact regarding previous epidemics are vague, but during the 1890-'92 epidemic of influenza, there was a disease called nona, which according to all descriptions must have been the same only it was so mild that there were almost no deaths from it, and almost no post mortem work was done. However, there has always been a sort of loose relationship between the epidemics of the two diseases. Sometimes encephalitis has appeared in a community months or a year after the influenza epidemic has passed. So far as the indi-

vidual patient is concerned, a history of previous influenza is often lacking.

I was very much impressed by the first 11 successive patients I saw, not one of whom had influenza. In my own experience, I should say that less than 25 per cent gave a clear history of anything like influenza either shortly before or long before and the initial catarrhal or febrile symptoms sometimes erroneously attributed to influenza were really caused by the encephalitis virus itself and not by influenza. The period of incubation in the Swedish epidemic was fixed at 10 days in the human disease while in the rabbits it was months.

I quite agree with Dr. Winner's statement about the preceding nervous disturbances or run down condition. I do think that is a factor we get very frequently in taking the history, and it may be that these are some of the conditions necessary for the virus to take hold. As to contact cases, I also know personally of the case of a nurse who had taken care of an encephalitis patient and developed the disease herself. Some of the reports from England, France and Sweden are certainly very convincing that contact infections do occur, but that they are very rare, not any commoner than in poliomyelitis, so we almost disregard them. It seems to me that for a State which allows people with active syphilis and gonorrhea to be at large it would be absurd to quarantine victims of a disease with the actual contact infections so rare that you have to scan the literature of a half dozen countries to get a few cases assembled. I forgot to say I am heartily in favor of the compulsory reporting of cases. It is very important, I think.

SOME OF THE MORE COMMON NEURO-SURGICAL CONDITIONS*

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Before this gathering, composed of men interested in various lines of medicine, it seemed to me but two possible phases of neurological surgery could be discussed. A general paper, covering the various groups of cases that have fallen into the domain of the neurological surgeon, or a more detailed discussion of the most common conditions in this field about which various misconceptions still exist. Brevity and a fondness for cold facts have prompted me to select the latter subject.

The two subjects, therefore, I shall confine my attention to this evening are trigeminal neuralgia and gliomas of the brain.

TRIGEMINAL NEURALGIA

Those of us who perhaps rather rashly put all

of our eggs in one basket, and have given up all general surgery, have naturally welcomed the definite trend of the last five years on the part of the general surgeon to leave the problems of neurological surgery to those specially trained and interested in that work. As a consequence, the entire prognosis of such a disease as trigeminal neuralgia has changed. A disease whose radical treatment by operation had such a high mortality that clinicians sought other means of relief in order not to subject their patients to such grave risks, has today practically no mortality, much less than one per cent. It is amazing, however, how slowly the truth filters through. Text-books incorporate new ideas so slowly that not infrequently, as in this instance, they are fully ten years behind the times, for all I have looked at still say this operation is one of the most dangerous of operations.

The best methods of treating this disease are now well established; the most difficult problem centers now about the correctness of the diagnosis. A few years ago I used to say that if a patient had a return of pain after a Gasserian ganglion operation, the operation had been done imperfectly, but we have all had the trying experience occasionally that in spite of a technically perfect operation, as proven by the complete anesthesia of the region supplied by the fifth nerve, the patient still had pain. In almost all these instances, the diagnostic error is that one of those very peculiar nasal neuralgias, to which Sluder of St. Louis first drew attention, has been mistaken for a true tic douloureux. It has been my privilege to be associated with Dr. Sluder for the last twelve years, and even he has at times been quite at a loss to find the cause of these pains in the distribution of the trigeminal nerve. How can this error be avoided in future in the doubtful cases? The most effective method is to inject one of the affected branches with alcohol to see if this temporarily relieves the pain. If it does, it is undoubtedly a true tic douloureux, and operation on the posterior root of the Gasserian ganglion then always results in a cure. If injection of a branch does not give relief, cocanization of the sphenopalatine ganglion, as devised by Sluder, as a rule clears up the diagnostic dilemma.

The nasal neuralgias, however, are not the only conditions which simulate tic douloureux. The other conditions are inflammatory condi-

*Read before the Inter-State Assembly of the Tri-State District Medical Association, Des Moines, Iowa, Oct. 29-Nov. 1, 1923.

tions about the face and jaws, infected or impacted teeth, tumors on the jaws or gums, retro-pharyngeal tumors, or intracranial tumors pressing on the Gasserian ganglion, so-called Gasserian ganglion tumors. All these must first be excluded. None of these are difficult to recognize when once thought of, with the exception of the Gasserian ganglion tumors. Some years ago I reviewed these cases and set down the symptoms and signs that were characteristic and differentiated the condition from tic douloureux. These were: constant pain in the distribution of the fifth nerve, not pain occurring in paroxysms; paralysis of the motor branch of the fifth nerve; anesthesia or hypesthesia in the distribution of the fifth nerve.

Before resorting to an operation on the posterior root of the ganglion, which always remains a formidable operation even if not dangerous as it formerly was, the surgeon must satisfy himself, even after he has decided he is dealing with a trigeminal neuralgia, whether the disease is severe enough to warrant the radical operation or whether palliative measures are indicated. No hard and fast rule can be laid down on this matter.

I use but two methods of treatment, either alcohol injection, or the radical operation on the posterior root of the ganglion. I do not believe in any of the peripheral extractions of the nerve; they are disfiguring, are only palliative, and often do not afford nearly as much or as long relief as do the alcohol injections. When but one branch is involved, an alcohol injection should almost always be tried first; but I have done the radical operation where but one branch was involved, either because of the patient's intense suffering and desire to be permanently cured, or because the patient grew tired of repeated alcohol injections and wished permanent relief. In very few instances has it been my good fortune to give permanent relief by an alcohol injection; as a rule the pain returns within one to two years.

The operation on the posterior root of the ganglion has replaced the earlier operation of removal of the ganglion itself. It is somewhat easier, requires a smaller exposure and, as pointed out by Spiller and Frazier, who first suggested the operation, accomplishes all the removal of the ganglion did. It has, furthermore, certain advantages, for it makes it possible to

save the motor branch of the fifth nerve, thus avoiding paralysis of the muscles of mastication on one side, which does not in any way interfere with mastication but at times annoys particularly sensitive patients; and secondly, very recently a slight technical improvement has made it possible in selected cases to save the fibres of the ophthalmic division, thus avoiding anesthesia of the cornea.

Though this operation has practically no mortality, there are post-operative results that may be very annoying, and it is well to keep these in mind. Any one who has seen the fearful suffering of a patient with major trigeminal neuralgia would suppose that any discomfort would be readily borne if the pain is gone, but we all forget past pain quickly, and the discomfort of the moment is always more prominent.

Some of these patients, after operation, are annoyed by the numbness of their face, which is an inevitable accompaniment of the operation. It feels "wooden," or "thick," or at times they say it feels "crawly." The vast majority of patients very soon grow accustomed to this, but occasionally a patient is much annoyed. There is nothing to do for this, and a patient should always be told beforehand of this and the other post-operative possibilities.

A much more serious complication occasionally occurs, namely, paralysis of the facial nerve with consequent inability to close the eyelid. This has happened to me three times in my series of over sixty cases. Fortunately the facial nerve recovered in all three cases, but during the period of recovery the eye is in a very precarious condition. The cornea is anesthetic as a result of the extirpation of the fifth nerve, and a corneal ulcer is almost unavoidable. These ulcers may be difficult to heal, and the cooperation of an ophthalmologist, who understands the difficulty of the problem, is necessary. Saving the ophthalmic division of the fifth nerve obviates this complication, but I hesitate to do this, as, in trying to separate the fibres to the first division, one may leave some second division fibre, and leaving any of those fibres means a continuance or recurrence of pain. Besides, if certain simple precautions are followed, patients will have no trouble. The precautions are these: First, having the anesthetist keep the eye covered so that no ether fumes come in contact with the cornea; second, covering the eye

at the end of the operation so that the patient cannot touch his anesthetic eye ball; and third, instructing the patient how to wash out his eye with salt solution in an eye cup to remove any irritating particles that he could not feel because of the anesthesia of the cornea.

In the past year, several articles have appeared which contained some misleading statements in regard to the subject. One was that if this operation were done under general anesthesia, the patient would be greatly shocked and therefore it should be done under local anesthesia. This has not been my experience. My patients practically all sit up in bed the next morning and leave the hospital in five to seven days after operation. This operation should be done deliberately, and if troublesome bleeding is encountered, as occurs in a certain number of cases, progress may be slow and difficult. It is a trying operation for the surgeon. Why make it also trying to the patient by making him go through the added ordeal of all that goes on about him? A certain amount of pain is inevitable with local anesthesia and this the patient can well be spared. I have used local anesthesia in a few cases but find no benefit to the patient and have, therefore, discarded it.

The other statement is that facial paralysis occurs after almost all of these operations. This is absolutely incorrect, and were it true would be enough to discredit the operation. When a sensory nerve is destroyed, the muscles which receive their sensory supply from it lose their tone, but the muscle still can be moved. Occasionally, for a few days, one may see such lack of tone, but that is not a facial paralysis, for all the muscles innervated by the seventh nerve can be moved. Rarely a true facial paralysis occurs, the cause of which has occasioned much discussion, but when it occurs the picture is a very different one.

I feel that few, if any, operations in surgery are followed by more satisfaction, in the vast majority of cases, than is the extraction of the posterior root of the Gasserian ganglion.

GLIOMA OF THE BRAIN

The second subject, gliomas of the brain, which I wish to take up with you, has two points of similarity to the first. The text-book information is very inaccurate, and secondly, specialization has advanced the treatment and improved the results tremendously. But there the similarity ends, for the operations have a mortality

varying between ten and fifteen per cent, though the permanent cures are much lower than the operative recoveries. Infiltrating tumors never yield as large a number of permanent cures, though newer methods are constantly increasing the number of cures. I use the term infiltrating and not malignant, as I feel there is a very definite difference between the two terms when applied to the brain. A tumor that only infiltrates, but never metastasizes, is more amenable to treatment than one that metastasizes as well as infiltrates. Gliomas never metastasize, and only some of them infiltrate. Quite a few are sharply defined and can be cleanly enucleated, and others are cystic and the growing portion of the tumor is a small nubbin of tumor on the wall of the cyst which can readily be removed and a permanent cure thus be effected.

The infiltrating gliomas require a very extensive and radical type of operation if we hope to cure them. There are those who believe that such gliomas should be left alone, but I cannot share that view. I attempt to remove the entire tumor if I can, and then follow it up with very intensive deep x-ray therapy. I gave up radium over two years ago, as it was quite ineffective in my hands and tended to stimulate, rather than inhibit, any tumor tissue that had been left, but with powerful x-ray therapy the results are very promising. Whenever the tumor can be localized, I believe in going after the tumor, and only use palliative measures where no localization is possible, or where, for some special reason, I don't think a patient can stand an extensive radical operation. I want to say right here that there is no method in my experience which enables us to localize one hundred per cent of brain tumors, just as I know of no other method in medicine that gives one hundred per cent results, and therefore there are instances in which palliative measures must be employed, but these are becoming fewer as our methods of diagnosis are becoming more accurate.

This brings us back to the most important phase of this subject, as it was of the first one I took up, namely, the diagnosis in these cases. I have, of course, no time to go over the entire question of brain tumor diagnosis: I merely want to point out the distinguishing diagnostic features of the gliomas, and the methods that are

most useful in arriving at a localizing diagnosis.

The gliomas constitute fully forty-five per cent of all brain tumors. The history very frequently will enable one to predict the nature of the tumor. There are gliomas that are present for a long time, but in the vast majority of cases the symptoms develop rapidly, sometimes in four to six weeks, and therefore it is essential to recognize them early, for they may grow at an amazing rate.

The second most frequent growth in the brain is the endothelioma. The gliomas and endotheliomas together comprise between sixty and seventy-five per cent of all tumor cases. The rate of development of the disease is the great distinguishing feature between gliomas and endotheliomas. If a patient develops brain tumor symptoms rapidly he has almost certainly a glioma; if the symptoms develop slowly, it may be an endothelioma, though once in a while gliomas develop slowly, especially if they are cystic. The symptoms of onset vary greatly, but the rate of progress of the disease is the most important single factor which makes one suspect a glioma.

Our diagnostic methods may be summed up under four headings:

1. A neurological history.
2. Neurological examination, which includes, of course, very careful eye fields.
3. X-ray.
4. Air injection of the ventricles.

The first two still are the most important methods we possess. The x-ray may be a valuable aid, and air injection may be a further aid, but the latter, in my experience, is by no means an infallible method. In fact, in my hands air injection has rarely helped me, though in a few instances it has been of distinct value and has made a localizing diagnosis possible when all other methods failed; but, on the other hand, it has misled me a number of times, and is attended by some risk, and in one instance, at least, was the cause of death.

The history, if taken by one specially trained to study these cases, is invaluable, for by proper questioning, early symptoms may be developed that would be missed in the ordinary questioning. The initial symptom and the sequence of symptoms are of vital importance, particularly in aiding in the localization. It is from the history very frequently that one can determine

whether one is dealing with a glioma or some other type of tumor.

Brain tumors need early treatment. They should not be temporized with; as soon as a brain tumor is suspected, the physician should get action. There are two "don't's" that I should like to refer to right here. Unless you have positive evidence of syphilis, don't lose precious time by giving antisyphilitic treatment; gummas of the brain are much rarer than tumors. In over three hundred and fifty craniotomies for suspected tumor, I have only found three cases of gumma. The second "don't" is not to use lumbar puncture in cases that are clearly tumor cases, as shown by the severe headache, changes in the eye grounds, or evidence of marked increased intracranial pressure on x-ray. In such cases lumbar puncture is a real danger, and has been responsible for a large number of unreported deaths. I do not wish to be understood, however, as advising never to do a lumbar puncture, for there are cases where a knowledge of the cerebro-spinal fluid is essential, particularly to exclude cerebro-spinal syphilis, for at times in these cases the eye ground picture of optic neuritis is indistinguishable from choked disc. The cell count of the cerebro-spinal fluid is of far greater value than the amount of cerebro-spinal fluid pressure. Cerebro-spinal fluid pressure does not necessarily indicate increased intracranial pressure.

The neurological examination is our second great aid, and the more carefully and thoroughly this is made, the larger will be the number of accurate diagnoses. No one feature of this examination is of greater importance than a careful study of the eye fields. The obscure tumors of the temporal lobe are more often recognized as a result of a careful field examination than in any other way. After completing the history and physical, the proper interpretation is of greatest moment. The evaluation of points in the history as compared with physical findings may be the crucial deciding factor. A striking example of this was the case of a man who had all the symptoms and signs of increased intracranial pressure, headache, vomiting, choked disc, and focal convulsions. These had all developed in a few months. With great difficulty the following fact was finally developed in the history, that for the previous eighteen years he had had subjective sensations of hearing,—hear-

ing bells ringing which no one else could hear. The physical signs suggested a lesion in the motor area, but the subjective signs of hearing pointed to a lesion in the posterior portion of the temporal lobe in the auditory center. As these symptoms preceded the motor symptoms by many years, that region was exposed at operation and the tumor was removed from that region.

There are a number of symptoms and signs of brain tumor about which there still exist misconceptions. Men ask me, how can this be a brain tumor, the child has never complained of headache, or the patient's eye grounds are normal, and there is no choked disc. It is true that the majority of patients with brain tumors have one or both of these symptoms, but children very frequently have no headache, which is due to the fact that the sutures on a child's skull give way and thus intracranial pressure is sufficiently relieved to prevent headaches, or when a tumor grows very slowly it may not produce much headache, and this is also true of choked disc. When a tumor develops very slowly, there may be no eye ground changes for a very long time. Glioma cases, however, almost always complain of intense headaches and show eye ground changes.

The change, however, that has come over the profession in the diagnosis of brain tumors in the past twelve years, is quite remarkable. Whereas when I first came to St. Louis, I rarely saw a tumor case that was not nearly blind, today I see case after case that is sent because the doctor suspects a tumor, but the findings are so few and indefinite that watchful waiting is the best advice to give. When one of those cases develops a tumor, their chances of a permanent cure are very good, for they are operated upon early in the disease, and a radical cure can be effected, unless their tumor has its origin so deeply in the brain that it cannot be gotten at satisfactorily. In other words, there are still cases, at present, that, from the first day the symptoms appear, are incurable.

What is the status of the x-ray? This must be considered from two points of view, as a diagnostic and as a therapeutic agent. In diagnosis, it may help tremendously. It may clinch a doubtful diagnosis, and, in a small percentage of cases, may show a tumor shadow, but as a rule it only shows the result of intraeranian pressure, convolutional markings, areas of thickening or

thinning of the skull, deformities of the sella tureica. When, however, air injection of the ventricles is performed, the x-ray gives much more information, for the shape of the ventricles and the way and extent to which they are dilated may help to determine the location of a tumor. As I said earlier in this paper, it does not always give this information, so that, in my experience, the percentage of cases of localization has not been greatly increased with this new aid. When used cautiously, I feel it is a method we must employ whenever simple diagnostic methods have failed.

Very powerful x-ray, as a therapeutic agent, is the most recent addition to our armamentarium. The Coolidge tube, with the two hundred thousand volt current, seems to do extraordinary things. It stops certain gliomas from growing, or destroys what remains of them. Whether it affects all gliomas alike, I do not know. Whether it affects a permanent cure, I am not prepared to say. It seems most promising but it has not yet reached the stage that it supplants the surgery of brain tumors. At present, it should be used post-operatively, but I see no justification to use it instead of surgery.

In summing up, I feel we are justified in saying that the successful treatment of gliomas of the brain is distinctly more promising. The increasing success depends on early recognition of the case. The most valuable diagnostic methods still are the neurological history and physical. X-ray and air injection are valuable further aids. The permanent cure is possible by radical surgical methods combined with deep x-ray therapy.

INFANT FEEDING SIMPLIFIED FOR THE GENERAL PRACTITIONER*

MAURICE L. BLATT, M. D.

CHICAGO

2,620,000 children are born alive in the U. S. every year. 199,000 or nearly 8 per cent die in their first year, 109,000 of these dying in their first month.

Those dying in the first month do so as a result of congenital defects or obstetrical injuries. Their deaths are not intimately related to the problem of infant feeding. The physical health and the future economic and military value of

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¹Louis T. Dublin; *Am. Journal Hygiene*, 3:211, May 1923.

the $2\frac{1}{4}$ million alive after the first month is distinctly our responsibility. No single factor is of such paramount importance in the production of the highest social efficiency as is the proper feeding of these infants.

Its mother's milk is the best food we have for the new born. If it is obtainable in sufficient quantity, the child will be subjected to one-seventh as great a risk of death as is its bottle fed brother. Digestive disturbances are rare and easily cleared up; in the breast fed. It has a greater immunity to infectious diseases and these, if acquired, are less severe. Rickets, scurvy, and beri-beri occur very infrequently in this group and when they do, are usually mild.

The new born should be nursed at four hour intervals, six feedings daily from birth. Weaklings and prematures may need the interval shortened to 3 and in some cases 2 hours. Failure to gain in weight after the 10th day in normal infants signifies insufficient food. The child will not gain on less than 2 oz. of milk per pound of body weight per day. Determine the amount of milk the child is nursing by weighing before and after every feeding for several succeeding days. Breast milk may be increased by nursing both breasts at each feeding. If this does not produce sufficient secretion, the nursing should be followed by a complemental feeding sufficient to bring the amount up to normal. Always feed the bottle after the breast and never give water within one hour of nursing time. Do not replace a breast feeding by the bottle until the child is three months old, then do so. This gives the mother greater freedom and makes nursing less burdensome; the mother will nurse her child longer under these circumstances. The ease with which weaning may be accomplished, when desirable, if this plan is followed, is surprising. The earlier a child is given the bottle, the less difficult there is in having it change from breast to bottle. Furthermore, there is an advantage in being assured that should artificial feeding be necessary, it would be well tolerated. A serious effort should be made to keep every infant on mother's milk until it is nine months old. If there is only as small an amount as one-half ounce of milk obtained from the mother at each nursing, the child should not be weaned but should receive this, followed by a complemental feeding.

Serious disease in the mother or total lack of

her milk necessitates artificial feeding. In the majority of children, this is readily accomplished by a simple milk formula based upon the following data:

1. An infant will take at least 2 ounces more food at each feeding than it is months old, i. e., a child of two months will take at least four ounces at a feeding.

2. Boiling milk for two minutes makes the casein curd smaller.

3. The dilution of milk by either plain water or cereal gruels makes it more easily digestible.

4. The minimal amount of milk necessary for a child each day is one and one-half ounces per pound of body weight, i. e., a child weighing ten pounds needs fifteen ounces of milk per day to thrive.

5. All well infants may be put on this minimal allowance to start, and none should be given more than this amount until the milk tolerance of the individual is determined by experiment.

6. One-tenth ounce of carbohydrate is required per pound of body weight per day. It should not be added to the milk mixture until the tolerance for cow's milk has been established by several days' feedings. It should then be added to the formula, and the amount increased every second day until the desired proportion is reached. The dextromaltose preparations give the most uniformly good results, but other sugars may be used.

7. The best results with infant feeding are obtained by weekly increases as the child increases in weight. If the child is gaining six ounces per week, an increase of one ounce of milk and one teaspoonful of carbohydrate is the usual amount. Decrease the water as the milk is increased after the total of a single feeding reaches eight ounces.

The amount of formula for a day's feeding is determined by multiplying the age in months plus two, by the number of feedings per day, i. e. a baby three months old will receive in its five feedings twenty-five ounces. The milk constituent will be one and one-half times the infant's weight in pounds. If it weighs ten pounds, it would receive fifteen ounces.

The carbohydrate element will be made up of one-tenth ounce of sugar per pound of body weight, in this instance one ounce.

Such a formula contains 315 calories, as milk (milk is estimated at twenty-one calories per

ounce) and 120 in carbohydrate—a total of 435 calories or forty-three per pound—a low limit as a starting point. Children at this age need at least forty-five calories to gain.

In all artificially fed children, it is wise to feed phosphorized cod liver oil beginning at the third month. This is best given emulsified with equal parts of malt extract so that each teaspoonful contains 1/200 gr. of phosphorus and 1/2 dr. of oil. It should be given three times daily, always after feeding. Orange juice, beginning with one teaspoonful and increasing one teaspoonful per week until the juice of a whole orange is included in the daily ration, should be started at this time. It is best given before the morning bath. A new article of diet should not be added until one is sure the previous addition is well tolerated.

Spinach, carrots, green beans and peas may be added during the third month. They must be boiled well and forced through a fine sieve. Start with one teaspoonful before the 2 p. m. bottle, and increase slowly. Cereal should be started in this month. It should be fed after the orange and before the bath. The fine wheat cereals are the best. One hour's cooking is essential. It, as well as the orange juice and vegetable should be given by teaspoon. This is the beginning of the child's education, which has as its final object the proper use of spoon, fork, and finally knife.

Stewed fruit, either prunes or apples, forced through a sieve, may be fed before the 6 o'clock bottle, anytime after the third month, if the child sits up alone. This, in addition to food value, teaches the child to handle solid food.

The child of eleven months, weighing twenty pounds has a daily feeding schedule approximately this:

- 6:00 A. M. Eight ounce bottle.
- 9:00 A. M. Four teaspoons orange juice, five tablespoons cream of wheat. This is before the bath.
- 10:00 A. M. Eight ounce bottle.
- 2:00 P. M. Four tablespoons of one of the following vegetables: spinach, carrots, peas, green beans, four tablespoons soup if it is customarily used in the household. Eight ounce bottle.
- 6:00 P. M. Two tablespoons baked potato, two tablespoons stewed fruit, one zweibach. Eight ounce bottle.

10:00 P. M. Eight ounce bottle.

The slightest indication of diarrhea necessitates the withdrawal of carbohydrates from the milk and of all other food but the milk—water dilution. Severe diarrheas are best treated by using protein milk based on Finkelstein's Eiweis Milch. There are a number of these on the market. When the stool is again normal, slowly return to the previous diet.

Never feed more than one quart of milk daily. Additional calories for babies weighing more than twenty-one pounds are easily made up by adding semi-solid food.

SUMMARY

1. Normal infants gain well and have the minimum of gastro-intestinal disturbance on mother's milk or mother's milk plus complementary feeding.

2. Artificially fed infants thrive on formulas based upon an initial feeding of one and one-half ounces of milk and one-tenth of an ounce of carbohydrate per pound of body weight, made into a milk mixture, by diluting with water, the total of daily feeding equalling the age in months plus two, times five ounces. Most infants require slightly more than this to gain, the younger the infant the more its caloric need.

3. Phosphorized Cod Liver Oil, orange juice and iron bearing vegetables are essential for artificially fed and desirable for breast fed infants.

THE SURGICAL ASPECTS OF CHRONIC PANCREATITIS*

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CHICAGO

In considering the various conditions which make up the surgical pathology of the upper abdomen, one of the most important and probably, also, the one most elusive of recognition, is that of pancreatitis, especially in its chronic state. The wide field of gall-bladder pathology, of ulcers of the gastro-duodenal tract, with their possibilities of perforations and other complications—these have been much discussed and investigated and while it cannot be said that as yet our knowledge of these conditions is near completion, still our comprehension of their pathology is much greater than is true of the pancreas.

It is within the last two decades that any ex-

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tensive investigations of the pancreas have been undertaken, and these have been largely only of its physiological and bio-chemical aspects. The pathological conditions to which it is subject are, in part, known to us, but much is still to be learned and we may almost say that the surgery of the pancreas is in its infancy, inasmuch as direct surgery of that organ has been very little attempted and has consisted largely in drainage in acute inflammatory or other emergency conditions.

There are, undoubtedly, very good reasons why the pancreas has been overlooked, while other abdominal organs have been more thoroughly investigated. Its diseases are not easy of diagnosis, and the comparative inaccessibility of its position, lying as it does almost entirely retroperitoneal, does not make for exploratory operation unless the need seems imperative. Likewise as to pathology, even cases of known pancreatic disease show little at autopsy, because of rapid postmortem changes in the organs.

The surgical aspects of pancreatitis, so far as our knowledge now extends, are always bound up with those of some other pathology of the upper abdomen, and in a vast majority of cases, this pathology is that of the gall-bladder and biliary passages. To what further fields we may be led by future investigations, is not now to be stated or even more than conjectured, but at present surgery of the pancreas deals largely, both as to etiology and association, with the pathology and surgery of the gall-bladder.

In considering this we have, first of all, to consider briefly the physiological and anatomical relations between the pancreas and its surrounding structures, also with the gross pathology,—that we may best determine the truest surgical aspects of the problem and the best of the present known methods of treatment.

As the pancreas lies directly behind the stomach and is largely a retroperitoneal organ, it is not easy or definite of palpation. Its head lies in close relation with the duodenum and the common bile duct. Its body is posterior to the stomach and the tail is in contact with the spleen and the splenic flexure of the colon. With this anatomical location, and with the fact that epigastric pain and tenderness are symptoms, not only of inflammation of the pancreas but of inflammatory conditions of any of the other structures just mentioned, it can easily be seen how

misleading and difficult of diagnosis it may become. This same location, together with the richness and free anastomosis of its lymphatic system makes very evident and logical the fact that pancreatitis is nearly always found in connection with pathology elsewhere among its neighboring organs and, probably, in the majority of cases, this pathology is secondary. This we deduce from the facts,—first, that at autopsy pathologic conditions such as might have existed previous to death, are rarely found, especially those conditions which could have existed long enough to produce secondary and often chronic secondary conditions in other organs. Secondly, because all of the conditions which are so frequently found in connection with chronic pancreatitis are even more often found independently of any recognized pancreatic pathology, while the pancreatic condition is never found independently of another and easily possible primary condition.

We may assume, then, in the light of our present knowledge, that at least the majority of cases of both acute and chronic pancreatitis are secondary in origin. We can next consider the main pathological aspects of the pancreas and the most important conditions which seem to give rise to it.

First, as to the pathology: much of the pathology of the pancreas arises from disturbances of its own secretions, even those disturbances or improper activations of its enzymes which are caused by agencies from outside the gland. The secretions of the pancreas are, perhaps, the most powerful in their action of those of any glandular organ of the body, especially the trypsin or proteolytic ferment and the steapsin, or fat-splitting enzyme. To the misdirected activities of the latter is due the fat-necrosis which is so typical and so pathognomonic of acute pancreatitis, but to the first are due the production of toxins, which make acute pancreatitis so severe and often a fatal condition.

Of the endocrin secretions of the pancreas, we know little as yet, save that they control the carbohydrate metabolism of the body, and that glycosuria and diabetes mellitus may follow upon a sufficient inhibition of its activity.

There are many theories expounded as to the pathogenesis of pancreatitis disease and in all of them, the condition is assumed to be secondary to pathology elsewhere. A few of these

theories are mechanical and assume the pathology to be due to a mere mechanical irritation by the bile as it is forced back into the pancreas through obstruction of the ampulla of Vater. Another assumes mechanical pressure from without, from stones, new growths within and without the gland, etc., to cause degeneration of the glandular substance and subsequent disturbance of secretion.

More commonly accepted, however, are the various theories of infection, and these are, in turn, divided as to source and mode of entrance. Of these, one theory assumes that all bile which becomes stagnant, or which does not flow normally through its ordinary channels of outlet, is infected, and that it is this infection or the presence of bacteria in the bile, which is retrojected into the pancreas through increased pressure in the bile ducts, which sets up inflammatory conditions in its recipient, rather than the mechanical or chemical irritation of the bile itself.

Another theory assumes the regurgitation of duodenal contents through the ampulla of Vater into the pancreatic ducts. These theories imply a direct injury to the pancreatic tissue.

Besides these, there are many cases which are undoubtedly due to infection, which must enter by some other route than by that of obstructed bile. These cases include lesions in other parts of the abdomen, gastric or duodenal ulcers, chronic appendicitis, renal or hepatic abscesses or any of the infections of the biliary tract. In these cases, the question is that of the route which the infection follows in entering the pancreas. It may, in some instances, be hematogenous, as when it occurs in cases of acute infectious disease, and in some, extension from direct contact, as in any form of retroperitoneal abscess, but undoubtedly the main avenue of access is through the lymphatic system with which the pancreas is so richly supplied and which anastomoses so freely with those of neighboring abdominal structures.

Especially in chronic pancreatitis does it seem that a long continued infection through the lymphatics takes place from chronic conditions of the pylorus, duodenum, appendix or colon. and this is, in fact, one of its most important surgical aspects, for here is where much can be done in the way of treatment.

Pathologically, chronic pancreatitis may be either an interlobular which involves mainly the

externally secretory part, or it may be interacinar, in which it is associated with disturbance of the carbohydrate metabolism of the body. Either or both of these conditions may exist, and often for a long time, without symptoms sufficient to attract attention to the pancreas.

The symptoms of chronic pancreatitis are not definite and it is this very lack of a definite syndrome which makes its diagnosis so often difficult. An acute pancreatitis is much more easy of diagnosis, but of course, often only when the stage of disease is very far advanced. On the other hand, the symptoms of chronic pancreatitis are often those only of the associated lesion, or at least, only those which can readily be ascribed to that condition, and most frequently that condition is some lesion of the biliary tract, particularly cholecystitis with or without stones. In the cases cited in the literature, between 70 and 80 per cent. were associated with cholecystitis and in fully 70 per cent. of these with calculi.

The surgery of the pancreas is preventive surgery, and the surgical treatment, we may say, is always the treatment of the primary focus of infection. Drainage in cases of acute inflammation or abscess formation of the pancreas is practically all that has been attempted as yet, as direct curative surgery of the pancreas has not yet been proven feasible.

The preventive treatment, then, becomes all important. Early recognition and treatment of gall-bladder and biliary tract disease will often do away entirely with the necessity for pancreatic surgery in the individual, as well as with the vastly greater risk to the patient, from the toxemia and shock which invariably accompany the attack of acute pancreatitis which may result from the presence of calculi in the ducts. For the sake of prophylaxis, then, cholecystectomy has been shown to be vastly more effective than cholecystostomy, because of its much smaller percentage of recurrences. When, however, the pancreatitis is so severe and the condition of the patient not such as to indicate a total removal of the gall-bladder, prolonged drainage relieves the intra-pancreatic pressure and thus gives it a chance to throw off the infection.

Summary: To summarize, then, we may draw the following general conclusions:

1. Pancreatitis is, at present, an often unrecognized disease, particularly in its chronic

form, because of its difficulty of diagnosis and its inaccessibility for operation.

2. Pancreatitis is, in at least the vast majority of cases, a secondary condition. It may follow lesions anywhere in the digestive tract, especially peptic ulcers, chronic appendicitis, etc. It may be hematogenous, from acute infectious disease, or its origin may be through the lymphatic system, but in by far the majority of cases it is secondary to gall-bladder disease.

3. The present conception of pancreatic disease is that of an infection from without, and any controversy which now exists is that of the pathogenesis or mode of infection, as the important question. The majority now believe it to be mainly lymphatic.

4. The treatment of pancreatitis is the treatment of the primary focus of infection and the preventive treatment is especially important because the secondary pathology is often much worse than the first. This fact is a strong argument for early treatment and, if possible, removal of the existing pathology or cause.

5. Pancreatitis is usually secondary to, or associated with, cholecystitis so that the question of gall-bladder surgery becomes of great importance, particularly the relative merits of cholecystectomy and cholecystostomy. I have endeavored in previous papers to point out the greater advantages of total removal of the gall-bladder, rather than simple removal of the stones with drainage. The end-results are better. There is a much smaller percentage of recurrences, and the future risk to the patient is indubitably less. I wish, therefore, in closing, to make a further plea for early recognition and surgery, not only in cases of pancreatitis, but also in those cases of chronic cholelithiasis, to which pancreatitis is usually due, and further, that cholecystectomy rather than cholecystostomy be the operation of choice in the surgical treatment of chronic pancreatitis.

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DISCUSSION

DR. WILLIAM M. HARSHA, Chicago: Dr. Moore's paper is a most commendable plea for anticipating disease of the pancreas and preventive treatment by eliminating those things which are now known to cause pancreatitis. Few of us have made a diagnosis of disease of the pancreas except in the acute type of pancreatitis and when we make that diagnosis it is very often too late to help the patient. In the evolution of abdominal surgery those of us who re-

call the early treatment of appendicitis will remember that the treatment was limited to the evacuation of peri-appendiceal abscess. Then we began to treat the cases earlier until now we believe in taking out the appendix before there is a lot of pathology involving it. The same thing has been true in regard to gall-tract surgery. At first we used to make a diagnosis of gall-bladder disease when the patient had jaundice and was in a bad state for operation. Then after a while we began to find there were earlier symptoms that were quite marked of gall-bladder disease and the result is that now we try to find gall-bladder symptoms early and operate on them. The same is true of ulcer of the stomach. Early diagnosis of ulcer gives a chance to those who believe in medical treatment. It is only by such a plea as Dr. Moore has made that we will get anywhere with disease of the pancreas. Possibly we will be able by blood chemistry and blood changes or other symptoms to detect early changes in the pancreas but at the present time surgery of the pancreas is limited largely to those acute attacks which are ordinarily only treated by drainage, sometimes only of the peritoneum and sometimes of the pancreas.

As to the manner of infection of the pancreas, I think by analogy we may conclude that as many diseases of kidney and gall-bladder infections are most likely to be through lymphatic routes, the same is true of the pancreas.

As to the choice of cholecystectomy or cholecystostomy, I still am old-fashioned enough to believe that it should not be arbitrarily decided, that each case should be a law unto itself and it should depend on the judgment of the surgeon when he sees the field. There are cases in which the adhesions around the gall-bladder are very dense and it would seem unnecessary to take out the gall-bladder except for that one thing. Because adhesions form so extensively in some patients, is a reason for doing cholecystectomy, even though there is little pathology in the gall-bladder itself.

DR. C. C. O'BYRNE, Chicago: I was much interested in Dr. Moore's paper. There is just one thing I want to take up, that is the question of cholecystectomy and cholecystostomy. I think there are many cases of pancreatitis in which there is a distinct advantage in not removing the gall-bladder because we can drain the pancreas by draining the gall-bladder. You are not removing all the disease when you remove the gall-bladder and you are removing all possibilities of drainage. We know in a large number of cases of pancreatitis if you remove all tension by drainage of the common duct into the gall-bladder you are draining the pancreatic ducts. You can remove irritants in the pancreatic ducts by draining the gall-bladder and so you have made a mistake by removing the gall-bladder and tying off its duct. You can drain the pancreas through the gall-bladder and if I am certain from the cases I have handled the advantage of cholecystostomy over cholecystectomy is that you can drain the pancreas through the gall-

bladder and when you remove the gall-bladder you remove the possibility of drainage.

In the second place, the number of recurrences,—I do not believe you need get 1 per cent of recurrences in gall-bladder infection or stones in cases drained. I believe we take out too many gall-bladders. You remove a stone that is blocking the duct, take it out and the gall-bladder will atrophy and the stone will not reform. It is much more of a surgical operation to do a cholecystectomy than to do a cholecystostomy. It is doing unnecessary surgery. If the gall-bladder is diseased to a very marked extent, I have operated on many cases in which I was afraid to take out the gall-bladder, where the wall of the gall-bladder was badly involved and the gall-bladder was full of pus. If I removed such a gall-bladder I do not think I would have saved my patients, whereas I did save them by simple drainage. If there is practically no disease in the gall-bladder, but simply a stone mechanically blocking its duct, I see no indication to remove the gall-bladder. There are few gall-bladders moderately diseased, as Dr. Harsha has said, with many adhesions showing that the gall-bladder has been constantly causing protective inflammation about it.

DR. A. P. HEINECK, Chicago: Dr. Moore's paper emphasizes three important facts:

1. That our knowledge of inflammatory, neoplastic and degenerative diseases of the pancreas is inadequate and calls for extended experimental and clinical study.

2. That the difficulty of recognizing acute pancreatitis and differentiating it from other acute inflammatory conditions of the upper abdomen, applies with equal force to chronic pancreatitis.

3. That the main etiological factor of chronic pancreatitis is the existence of disease in a neighboring organ (usually the biliary system) which secondarily involves the pancreas by continuity or contiguity of tissue, and by way of the lymphatic vessels. We must not underestimate the importance of the lymph-channels both in the transmission of infection and in recovery therefrom. Thus, ulcers of the posterior walls of the stomach may form an excavation into the body of the pancreas; thus, the frequent co-existence of cholecystitis and cholelithiasis and pancreatic disease.

There are two types of chronic pancreatitis: One involves the interlobular septa and the parenchyma of internal secretion and the other type mainly involves the islands of Langerhans and the secretory tubuli. The latter is the type usually associated with carbohydrate metabolism which in primary cases develops into diabetes. Interlobular pancreatitis is usually concerned with digestive disturbances.

We will lessen the occurrence of chronic pancreatitis by advocating and practicing the early surgical cure of gall-bladder disease, of duodenal and gastric ulcers. In all cases of chronic pancreatitis, the biliary passages should be explored and routine drainage of the bile passages instituted.

DR. FRANK D. MOORE, Chicago (closing the discussion): In talking with Dr. Ochsner the other

day he told me I need not write any more about cholecystectomy, for they were all doing it now. Whether he was tired hearing about it and thought everybody else was, I do not know.

Answering Dr. Harsha, I thought I made it plain in my paper that while I favored cholecystectomy in most cases, yet every case should be a law unto itself and the choice of operation left to the judgment of the surgeon.

Answering Dr. O'Byrne, the simple removal of gall-stones from a gall-bladder is not dealing with the real pathology. Gall-stones are merely a terminal condition or symptoms of an infected or diseased gall-bladder, and any operation other than cholecystectomy at best is only palliative, leaving a pathology remnant behind, thereby establishing a vicious circle as it were between the gall-bladder and the pancreas, which is easily understood when one considers the close anastomosis between the lymphatics of the two organs.

ANNULAR CARCINOMA OF COLON PRESENTING AN UNUSUAL SYMPTOM-COMPLEX

E. C. KELLY, B. S., M. D.

PEORIA, ILLINOIS

A female patient, aged 48 years, who had been treated for six months for costiveness by enemata and olei ricini, came for diagnosis August 3, 1923.

The patient complained of periodic attacks of pain in right iliac region associated with nausea and vomiting. The first attack began six months ago, and persisted for three or four days. Every two to five weeks she complained of a similar syndrome. She was costive, never passed blood per rectum, vomitus did not contain any blood, lost twenty pounds in weight and became fatigued easily. During these periods she vomited 2-3 hours after eating. Pain was always confined to right side and was cramp like in character. Between attacks she had a period of comparative freedom from all symptoms. Family history was negative. She has had two children, 11 and 15 years, and one miscarriage. Climacteric at age of 37.

The examination revealed a poorly nourished dark complexioned woman of 48 years of age. No palpable cervical glands, lungs and heart normal, and blood pressure 120—80.

The reflexes were normal, the mucous membranes showed slight anemia, and abdominal examination revealed some diffuse tenderness in right iliac region with no rigidity. There was no tenderness in the upper abdomen. At times

a mass could be palpated in the upper left quadrant. Left inguinal hernia present. Vaginal examination while lying on back, either side, or in the erect position, revealed nothing except a cystocele and rectocele. Rectal examination was negative. Temperature 98.6. Pulse 80.

On analysis of urine, a few granular casts and a few pus cells were seen.

The gastric analysis was negative. Wassermann, negative, no occult blood in stool.

Hemoglobin, 70 per cent; red blood cells, 4,752,000; white blood cells, 7,600.

Morphology—very slight anicytosis; no nucleated red blood cells.

Differential:	Pct.
Lymphocytes, Large	7
Lymphocytes, Small	22
Polymorphonuclear neutrophiles	57
Basophiles	1
Eosinophiles	7
Transitionals	6
	100

Gastrointestinal x-ray examination revealed a point of obstruction in the distal part of the transverse colon with very marked colonic delay of more than 96 hours. The colon above the constriction was markedly dilated. On rectal examination, the examining finger coated with barium, under fluoroscopic control, could not touch the mass.

Ovarian cyst, fibroid on pedicle, floating kidney, chronic appendicitis, cholelithiasis, gastric disease, nephrolithiasis, were thought of, but ruled out on clinical evidence associated with other instruments of precision. Because of age, loss of weight, secondary anemia, delayed vomiting after eating, costiveness, palpating of small mass in left upper abdomen correlated with laboratory work, a diagnosis of annular carcinoma of transverse colon was made.

The patient was operated on and a Mickulicz in three stages was performed. One foot of bowel of the distal part of the transverse colon was removed with three or four mesenteric glands which showed metastasis.

The patient, after convalescing from the operative procedure without formation of a fecal fistula, was given deep x-ray therapy and sent home.

Microscopic examination of a slide made from tumor showed an adenocarcinoma.

An interesting fact is that this patient showed an eosinophilia of 7 per cent, a finding which

might possibly support the parasitic theory of cancer origin.

This case is particularly interesting from a diagnostic standpoint, because all of her symptoms were referred to right abdomen instead of left abdomen where the pathology was located.

THE HOSPITAL—ITS PROBLEMS*

CHESTER V. DECKER,

Superintendent of Toronto General Hospital,
TORONTO, ONTARIO

Since we are to consider the hospital it would seem fitting to define a hospital.

You have doubtless heard many definitions of a hospital which I am sure would describe it more elaborately and completely than the definition I have in mind for the purpose of this discussion. Webster defines it as "An Institution or place in which sick or injured are given Medical or Surgical care." Correct, as far as it goes, but extremely mechanical and omitting the vital factor—interest. I have, however, chosen to define a hospital as a group of citizens who, prompted by altruistic motives, join together in an endeavor to meet certain community needs.

A hospital is neither a geographical location, a pile of bricks and mortar, or even an administrative machine. It is essentially a group of human beings organized to perform a human service. A steel company, for example, exists first in the brain of an individual and then in a group of directors perhaps long before a single blast furnace is erected. So a hospital lives, first in the imagination of some individual, then in the hearts of a group of men and women, the first board of trustees, and finally is incorporated in buildings, staff and organization. The essential elements in a hospital are all human and the chief difficulties which have to be faced by a board of trustees are those which arise out of human factors. The success or failure of any great enterprise is largely dependent upon the manner in which the directors face the innumerable problems confronting them. So it is with the hospital, its success, in the final analysis, depends upon how the trustee board meet their various problems.

Having joined together and organized to meet

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certain community needs, let us consider what these needs are. To be sure we will require suitable building or buildings designed and fully equipped with every facility for caring for and treating the sick and injured of the community. The matter of providing buildings and equipment would, at first sight, seem to involve only difficulties of a physical and financial nature. Yet anyone who has ever been responsible for the choice of a hospital plan and the concrete carrying out of the plan finally settled upon, knows that the chief difficulties are those involved in human psychology.

The buildings and equipment are an indispensable pre-requisition of operation, but both before and after these are provided the difficulty of adapting these to the needs of the various sections of society faces the board of trustees.

It is easy to provide families with over \$10,000 income with suitable hospital service. It is also easy to provide families with \$1,000 income, but what about the family with \$2,000, \$3,000 or \$4,000 income, which can neither accept charity nor pay for private service. Thus we have before us the problem of providing suitable accommodation for the several classes of the community.

Again the hospital may be in a university town. Immediately confronting the trustee board is a demand from the university element for teaching facilities within the hospital, and cognizant of the importance of clinical instruction in the teaching of medicine and surgery to students, the board of trustees accept this as one of their obligations to the community. University interests may demand a closed hospital, or they may demand only a partially closed hospital. In either event there is inevitable friction, hard feeling on the part of the medical men not on the staff, criticism from some patients who find that their own physicians cannot follow them into the hospital, and, more or less, wide charges that the interests of the hospital have been sacrificed to the university. If we are to expect our university to be successful in medical education we must give it perfect freedom in rounding out its medical educational program as it involves the hospital.

Again the matter of appointments to the hospital staff is one which does not make the trustees' burden the lighter.

These are a few of the problems of general policy which face the board of trustees of a hospital. The hospital with which I am best acquainted is the Toronto General Hospital. It may interest you to know of how its board has tried to solve some of its major problems. I do not attempt to suggest that the methods worked out in connection with the Toronto General Hospital are the best possible. I simply offer them for what they may be worth as a contribution to the general problem.

We have in the Toronto General Hospital a 760-bed hospital very closely associated with the medical faculty of the University of Toronto. All of the problems which I have cited confront us. We have set aside in the interest of a certain class of the community 82 private rooms, with rates ranging from \$4.75 to \$9.00 per day—the charge for suites is \$17.00 per day. Generously considering the man of moderate means we have set aside 97 beds under the semi-private service, the rates are \$3.50 and \$4.00 per day. This accommodation is open to the profession at large and, as long as hospital rules and regulations are respected, the hospital does not, in any way, interfere with the treatment of these cases. To meet the demand of the profession, and also out of consideration of another class of the community, we have set aside 42 beds under the classification of semi-public accommodation for the use of the general practitioner not on the staff of the hospital. This accommodation is offered at a rate of \$2.75 per day which is considerably less than the cost of the public ward service. It is intended to meet, or at least in part meet, the needs of the outside profession who have patients unable to pay the semi-private rate, but who are not willing to submit themselves to clinical investigation and who wish to retain their own physician.

In addition to this we have a building devoted entirely to emergent surgery where the patients are given first aid on admission, pending the arrival of the patients' physician who is called with the least possible delay. The patient's physician may treat such emergent cases in the Emergency Department. When it becomes safe to move such patients they are transferred to the proper service in the hospital.

Two hundred forty-one beds out of a total of 760 are open to the profession at large, the re-

mainder consists of public ward teaching service which is under the direct control of the hospital and its own appointed staff and is used for the clinical instruction to medical students. No outside physician may interfere in any way whatsoever with the treatment of patients assigned to this service. We do, however, welcome the presence of the outside physician at the time of operation upon patients whom he has referred to the hospital, and at clinics, if the case is one of special interest to him.

We have then in this way met the demand for the several classes of accommodation expected of us. We have, in part, met the demand of the profession at large—that it be permitted to follow its patients into the hospital. We have amply provided for uninterrupted clinical instruction to the medical student and, in my opinion, have met in reasonable proportions, the several community needs of a hospital.

With reference to the question of appointments to the hospital staff. I do not need to tell you that this is a source of great worry to the average trustee board and often the cause of much feeling on the part of some aspirants to hospital appointments. Hospital appointments should be protected in every way against prejudice, partiality and political or financial influence. The hospital staff physician must be highly qualified, not only as an instructor and demonstrator, but as one competent in giving the best possible treatment to the cases in his care. However, the University is very much concerned in all staff appointments and should have an opportunity of discussing the merits of the respective applicants. For this reason we may well ask the University to name a limited committee—say, three or four University representatives, forming a committee on staff appointments. All applicants may then apply or may be recommended to this joint committee of the University and the hospital. This committee receives recommendations and applications and considers them entirely upon merit, and as a committee makes recommendations to the hospital trustee board, placing before them, with their recommendations, a record of the qualifications of each nominee. Their report is received and carefully considered by the whole trustee board who may safely make hospital appointments from this list.

By this method you often save an individual hospital trustee or governor of the University from embarrassment when they are approached by influential friends. They are in a position to say that they alone have no power in the matter, that appointments are made in the way which I have just described.

We have been dealing with problems of policy. Let us consider internal problems involving the relation of the profession to administration.

One of the greatest problems of every hospital executive is the promotion of understanding between administration and profession. It is difficult to successfully impress upon the profession the fact that the board of trustees, which is, in the final analysis, the management and the financial support of the institution is imbued with an honest desire to serve. This is, in fact, their sole motive for engaging in this field of philanthropic endeavor. With this in mind then it is only reasonable to assume that they are not only desirous but keen in every possible opportunity of improving their hospital service. The only compensation which they can derive from their service to the institution is the feeling of satisfaction which goes with the knowledge of having performed a humanitarian service in a highly efficient and commendable manner.

Years of experience enables the trustee board oftentimes to anticipate the final outcome of many schemes and agitations, sometimes involving a change in organization or system, and sincerely believing in their conclusions cannot always acquiesce with the wishes of the profession or some particular faculty of the profession. Again, more often, lack of finances will not permit them to immediately respond to advocations or requests from their professional staff. It is then on such occasions difficult to impress upon the profession that it is not through any lack of sympathy in the work, but for reasons far beyond the control of the board or because it is not in the best interests of the whole plan that various requests cannot be met. Such lack of understanding is very often due to the failure of the board or the chief executive of the hospital to meet such situations in a sympathetic and tactful manner. Since all those engaged in hospital work have common interests at heart a policy of "cards up," pursued over a period of time, is bound to

promote a better understanding and feeling between the administration and the profession.

It has often been said that an institution, such as a hospital, must be governed by an iron hand. It depends entirely upon the interpretation of "iron hand." If ruling with an iron hand is interpreted as meaning, in an autocratic manner, then the institution involved had better find a new way to govern its affairs. Strict execution of tried and proven principles and the adherence to sound systems are essential. There must, however, exist on the part of the trustee board or the executive officer of every such institution a willingness to receive individuals or deputations upon any subject whatsoever. It is the duty, and usually within the scope of the competent and experienced executive to listen sympathetically and to reason with such individuals or deputations to the point of amicable adjustment or solution of the problem at hand.

For instance—the radiologist appeals to the superintendent for the purchase of certain additional major equipment. He would like to meet this request without delay but is mindful of a long list of other important necessities. The pathologist has six months before made known his needs involving considerable outlay of money. The surgical staff have called attention to the desirability of improving the lighting system in the operating rooms. Medicine has long felt the need of laboratory accommodation or a metabolic kitchen under efficient direction. There is a long list before you. These are matters which may well be discussed with your medical advisory board, to which I shall refer in a moment. To merely say no, is not enough and promotes ill-feeling between administration and the profession. Far better to say, "Gentlemen, as you know, our finances are limited and our demands numerous; here is a list which I have had before me for some time. I have at my disposal \$. Let us consider how it shall be spent so as to meet the most urgent hospital needs."

In many hospitals the professional staff does not receive proper recognition. If they are to be held responsible for the professional treatment of the patients the hospital should give audience to any suggestions or grievances which the profession, as a whole, may have. There should be in every hospital a committee repre-

senting the professional staff. This committee should meet periodically, not less than once a month, for open and frank discussion on matters concerning the professional service within the hospital. If this committee has suggestions to make or criticisms to offer let them submit such to the superintendent in writing or at a meeting to which the superintendent may be invited for the purpose. If amicable adjustment of such problems or differences is not reached by this means then this committee should have access to the trustee board at its first next regular meeting.

In the case of the Toronto General Hospital the advisory board consists of the heads of the several departments, that is, surgery, medicine, oto-laryngology, gynecology and obstetrics, anesthetics, radiology, in fact, every faculty interested is represented. As the trustee board meets on the third Wednesday of each month, the advisory board meets on the third Monday. Thus, any proposal made by the advisory board which requires the consent of the trustees may be dealt with without delay.

As a hospital is not operated for profit and is seldom, if ever, in possession of surplus operating funds, there is no business in which it is so essential that a dollar go the full distance. This responsibility rests with the business management. Volumes could be written on this subject—time will not permit me to deal with it in this paper. I will, however, at the request of Dr. McMechan, give you one or two instances which will illustrate how savings may be effected in the average hospital. Every artisan hand in the employ of the Toronto General Hospital is made to work to a schedule. He is given a time sheet to be filled in by him and handed to his chief, upon which he specifies the time spent on each job assigned to him during the day. On the back of that sheet he records the materials used by him on the job. When time and material are extended we have the cost of the job. These reports are checked with the work done and the superintendent must be well satisfied that the work was done at a considerable saving over the lowest contract tender for the job. I have in mind a painting job which tenders were asked for. The lowest tender quoted an average of \$35.00 per room, our own painting department tendered on the same job

at \$22.00 per room. The work was completed at an average cost of \$19.60 per room.

Again, too often, the requisitioning of supplies is entrusted to those who have charge of the distribution and who are responsible for the economical use of such supplies. Under our system each department's daily or weekly requirements are carefully worked out and at specific intervals a report of stock on hand goes to the department from whence the supplies are issued. For instance: In a service pantry serving sixty patients, the pantry nurse does not requisition for her daily supplies, but rather reports to the dietary department the number of patients she has that day and gives an inventory of the supplies on hand. The dietary department then orders on the stores to send the necessary supplies to the various service pantries. Under this plan we feel that we have a closer check on our supplies and we encourage economical distribution. In conclusion, I should like to say a word regarding the hospital staff and its obligation to the hospital:

The staff of every hospital owes at least one thing to the hospital—that is loyalty. This, regrettably, the hospital does not always enjoy. Whatever ambitions the staff may harbor concerning the hospital, realization is, for the most part, dependent upon the good will of the community which the hospital serves. Practically every dollar for expansion or new major equipment is acquired through personal canvas by members of the trustee board, among their friends or prominent citizens. You may well imagine the feeling of a trustee who learns from a prospective subscriber that his inclination to support the work of the hospital has somewhat changed as the outcome of an interview with a member of the hospital staff. This has happened and too often. It is not always deliberate on the part of the individual who leaves this impression but may be attributed to some grievance which the individual holds and which he is voicing at every opportunity. The professional staff may very often assist the trustee board by telling of the good work the hospital is doing and that it would undoubtedly do more were it not hampered by lack of finances. I am glad to say that in our institution, not infrequently, through the good offices of some member of our staff, we receive donations and bequests, either marked for specific purpose or to be used at the discretion of the trustees.

EDWARD MEAD, M.D., THE PIONEER
NEUROPSYCHIATRIST OF ILLINOIS*
1819—1883

GEORGE H. WEAVER, M.D.,
CHICAGO

During the study of the earliest medical schools in and near Chicago, I came upon a group of remarkable medical men, several of whom have received but scant mention in local history. Among these was Edward Mead. His valuable and far reaching services to Illinois were performed during a residence of ten years, then he left the state and most of the records of his activities were quickly effaced. What I have been able to learn of him is here presented in the hope that it may interest others as much as it has me.

Edward Mead was born in Leeds, Yorkshire County, England, March 21, 1819¹. When 12 years of age he came with his parents to America. The voyage was made on a small sailing vessel and the landing was probably at New York. Where they located is not known. Some of the family soon came to Illinois, for five years later, in 1836, an older brother of Edward was accidentally drowned in the Chicago river. A sister later went to Iowa.

Nothing has been learned of the life of Edward Mead from his boyhood until he was nearly twenty years of age. About 1838 he began the study of medicine under the direction of Dr. Robert Thompson of Columbus, Ohio.

Dr. Robert Thompson was then 41 years of age and one of the most influential physicians in the state. He had served as State Senator and for many years was physician to the State Asylum for the Deaf and Dumb. He was one of the founders of the Ohio State Medical Society. In the stormy days when the Medical College of Ohio was torn by dissention and the schemes of politicians, he was a staunch friend of the school. It was in 1838, when young Mead was a student in his office, that the Ohio legislature established the Lunatic Asylum of Ohio at Columbus. In bringing this about we may expect that Thompson took an active part. It is quite likely that the association with Thompson at the time of the agitation for the hospital for the insane

*Read before the Society of Medical History of Chicago, December 14, 1923.

1. Notes by son, Ernest Mead, personal communication.

aroused in Mead the sympathetic interest in the insane which never failed as long as he lived.

While he was a student with Dr. Thompson his health became impaired and he made a trip through the southern states, combining some sort of business ("collecting") with health seeking. He then observed slavery at close range and the sale of slaves at auction in New Orleans specially impressed him so that he acquired a strong and lasting anti-slavery sentiment.

In 1841 he graduated from the Medical College of Ohio. He realized that his education was incomplete because of the inadequate hospital advantages afforded at the time by Cincinnati, and at once he journeyed to Europe to continue his studies.

In Paris he found such teachers of surgery as Vepeau and Nelaton. The eloquent clinical teacher, Trousseau, was 40 years of age and can hardly have failed to favorably impress the young man. In London, Wm. Ferguson had recently become professor of surgery in King's College, medicine was being taught in the London Fever Hospital by Alexander Tweedie, in Guy's hospital by Thos. Addison and Richard Bright, and in St. Bartholomew's hospital by P. M. Latham. Mead also went to Ireland, and can hardly have failed to come under the spell of the remarkable trio of Dublin clinicians, Robt. Graves, Wm. Stokes, and Dominic Corrigan.

There is no record of what studies he made of insanity at this time, but with his interest in the subject, he probably visited institutions for the care of the insane.

Upon his return from Europe he located in Cincinnati, but, urged by relatives, he soon came farther west and settled near Chicago, probably at St. Charles. At St. Charles in 1842 he married Minerva Levally Baird. From this union there were born 7 children. Of the first three, two were born at St. Charles, 1844 and 1847, and one at Geneva, 1845. Two were born "near Chicago," 1849 and 1851. The other two were born at Cincinnati, 1853, 1856. In 1859 his wife died at the age of 39 years. Ten years later a second marriage was consummated, from which there resulted two children.

During the years he lived in the country west of Chicago he carried on an extensive practice among the settlers. He was called upon to do all sorts of medical and surgical work in the

primitive cabins without assistance. The roads were often only trails and travel was usually on horseback. In some seasons the mud was bottomless, and streams had to be forded. Often the cold was extreme. He had the excitement on at least one occasion of being chased for many miles by wolves.

While he was performing these arduous duties his interest in the insane never abated and he found time to put forth efforts directed toward their relief. This must have been stimulated by what he saw of the treatment of insane persons in Illinois. The insane were kept in poor-houses, often shut in small insanitary cages with heavy bars. Many were kept in private dwellings in "cabins" or "pens," sometimes chained. There were most distressing cases of persons whose limbs had been frozen, both through exposure while wandering about the country during inclement seasons and from being shut in small cells or pens, without clothing or fire to temper the cold, or to protect from storms. In some cases the cages were without floors, and the unfortunate inmates lived in extreme filth, with no heat in winter nor protection from heat and insects in summer. Dumb animals were treated with more humanity.

Mead at once began to agitate for the establishment of a state institution for the care of the insane. He says² that he was "the first to move in behalf of the insane of Illinois, having done nineteen-twentieths of the active labor of getting the Jacksonville Hospital established, and having been laboring in the cause as far back as 1842."

Dr. Mead's son, who was nineteen years of age when his father died, tells me that his father often told him that he wrote 700 letters during three years to influential people trying to interest them in the establishment of a public hospital for the insane. This was done when all letters were written by long hand, and when postage was from six to twenty-five cents per letter.

In November, 1845, Mead delivered "An appeal in behalf of the Insane" in the Presbyterian Church at Jacksonville, Illinois, looking toward the establishment of an Illinois State Hospital for the Insane.³ This was an able address and set forth the needs and usefulness of institutions for the insane. He always insisted that such

2. American Psychological Journal, 1853, I, 199.

3. Do p. 129.

institutions were not simply for the confinement of the hopelessly insane, but more especially for the treatment of patients who might recover.

Further evidence that he never lost an opportunity to further his object is shown when upon his motion at the meeting of the Rock River Medical Society,⁴ May 19, 1846, a committee was appointed whose duty it should be to report to the Society at its next meeting on the present status of the insane in Illinois.

In the discussion of the history of the establishment of the first hospital for the insane in Illinois the work of Mead has hardly been mentioned. Moyer⁵ in this connection, does not mention him, and says: "It was largely due to her (Dix) activities that the Illinois Asylum for the Insane was opened in 1851."

When the Reports of the Illinois State Hospital for the Insane (1847-1862)⁶ were reprinted in 1863, with the purpose of "preserving the historical records of a permanent institution," the volume opens with the "Memorial of Miss Dix," and no mention is made of the work done by others. The dramatic "memorial" to the State legislature in 1847 by Dorothea Dix doubtless was a factor in determining action by the legislature at that time, but she came on the scene only after the arduous and essential preliminary educational work had been done by Mead and his co-workers. In the first draft of the bill establishing the Jacksonville Hospital, three of the faculty of the Medical Department of Illinois College, viz., Mead, Adams and Prince, were among the trustees.⁷ These names "were soon erased at the instance of some sagacious statesmen on the ground that the parent college was managed by Yankees and Presbyterians." Thus at the very beginning politics entered into our State institutions. There is little doubt that Mead, backed by his colleagues on the faculty of the Medical Department of Illinois College, secured the establishment of this first state hospital for the insane in Illinois, and determined its location at Jacksonville.

Mead early showed his interest in medical education, and as he had striven to correct the bad conditions in the treatment of the insane,

so he quickly attacked the weak spots in American medical education.

When a medical school was organized at St. Charles, Illinois, in 1843, he was one of the teachers.⁸ In 1844 he wrote a report on medical education for an Illinois Convention. Although he speaks of this report as having been published, we have been unable to find a copy. From his reference to it and from his subsequent writings on the subject we may imagine that he did not deal lightly with the defects in medical education as they then existed.

In 1845-1846 Mead was professor of materia medica and therapeutics in the Medical Department of Illinois College at Jacksonville, Illinois, where he proved a satisfactory teacher.⁹

As a delegate from this school in 1846 he attended the National Medical Convention in New York, being the only representative from Illinois.¹⁰ Here this young man of 27 years, because of his enthusiasm in the cause of reform in medical education, was appointed a member of a committee to prepare a report on preliminary education of students of medicine and he contributed to the report which was presented the following year in Philadelphia,¹¹ at which time the American Medical Association was organized.

In 1847 Mead resigned his place in the Medical Department of Illinois College and removed to Chicago for the purpose of opening a private hospital for the insane.¹² From 1847 to 1851 he appears in the Chicago directories as a resident of the city. He seems to have attained some local reputation in the management of insanity, as Brainard speaks of him as having "devoted much attention to the subject," and as having "several cases upon his hands which were so urgent as not to admit of delay in treatment."¹³ In an editorial Brainard also says, "He has procured, in the vicinity of the city, twenty acres of ground, favorably situated, upon which we will proceed to erect suitable buildings for permanent use. There is no hospital for insane persons, in operation, within several hundred miles of Chicago, and none in any part of the

8. The Old and New St. Charles by Mrs. Emily D. Shibley, 1909.

9. Black, Carl E., Illinois College Medical School, *Bul. Soc. Med. Hist., of Chicago*, 1913, I, 171.

10. Proceedings of the National Medical Conventions held in New York, May, 1846 and Philadelphia, May 1847, p. 14.

11. Do, p. 79.

12. Ill. and Ind. Med. Jour., 1847, IV, p. 280.

13. Do, 1847, IV, 280.

4. Illinois and Indiana Med. Jour., 1946, III, 258.

5. Illinois Medical Journal, Sept. 1923, p. 207.

6. Reports of the Illinois State Hospital for the Insane, 1847-1862, Chicago, 1863.

7. Amer. Psychological Jour., 1853, I, p. 199.

United States not already filled to overflowing, so that the establishment of this seems a matter of urgent necessity." When Mead opened his institution in Chicago it was the only one in operation west of Columbus, Ohio.

In a report of the Chicago Retreat for the Insane, published by Mead in 1848,¹⁴ it is stated that the institution was opened in August, 1847, and that within six months fifteen patients were received, five of which were cured. Until the permanent buildings were ready for use a house on Kinzie Street was utilized for the care of urgent cases. In 1851 a fire was started by a patient, and the five buildings were burned.

The exact location of the Retreat has not been established. It temporarily occupied a house on Kinzie Street, between Wolcott (now North State) and Cass Streets. In 1847 permanent buildings were occupied on 20 acres of land, "2¼ miles northwest of the business part of the city," where "it is sufficiently remote from the noise and bustle of the town to afford the invalid all the necessaries which will restore to him mind, reason and health." Mead seems to have received the cooperation of many of the most influential persons of Chicago. On the Board of Visitors were Prof. D. Brainard, Rev. Bishop Quarter, Wm. B. Ogden, J. H. Reed, Rev. R. W. Patterson, Rt. Rev. J. O. Van de Velde. Members of the Board of Visitors outside Chicago included Dr. Wm. LeBaron of Geneva, Hon. Robt. Boal of Lacon, Rev. A. Hanson of Southport, W. T., and Dr. D. D. Stahl of Ottawa. The Lady Visitors included some of the most influential women of the city: Mrs. E. Peck, Mrs. H. Fuller, Mrs. J. B. F. Russell, Mrs. J. Y. Scammon, Mrs. D. L. Gregg. (Chicago Directories, 1847-8: 1849-50; 1851.)

It has been our good fortune to receive from Mr. Ernest Mead, son of Edward Mead, a book containing the records of the patients treated in this institution. The records are in Mead's handwriting and contain in systematic tabulated form a complete history of each patient.

From August 8, 1847, to Dec. 23, 1851, 139 patients were treated. Of these 8 were in 1847. 33 in 1848, 33 in 1849, 39 in 1850, and 26 in 1851. It is recorded that 63 were cured and 13 died. The patients came from various parts of Illinois, Wisconsin, Michigan and Indiana. Two

were from Troy, New York, and one from St. Louis.

The first case was one of puerperal mania, developing a week after delivery and ending in recovery. The second case was a young woman in whom violent mania followed fright. In this Mead records that there was "instantaneous recovery, in which reason returned as quickly as an electric flash." He also noted that the patient had "hysteric convulsions—apparently entirely under her control." In several instances the record is that before admission, patients had been subjected to "copious bleeding, cathartics, low diet, blisters to arms and back of neck."

Case No. 17 was admitted Feb. 28, 1848, and discharged cured April 3, 1848. The diagnosis was mania. This patient was a male of 37 years. He had been "kept in Racine County jail 15 months; 9 months of the time heavily ironed, chained, manacled and handcuffed. The first item of treatment on admission was to send for a blacksmith to cut his rivets loose."

The loss by fire together with the opening of the Illinois State Hospital for the Insane at Jacksonville with a tendency for patients to go to the free state institution in preference to a private one probably influenced Mead in abandoning his Chicago Hospital, and accepting the proffered chair of obstetrics in the newly founded Cincinnati College of Medicine and Surgery. Here he also lectured on his favorite topics, mental diseases, and medical jurisprudence.

In 1852 he delivered the valedictory address¹⁵ to the graduates of Cincinnati College of Medicine and Surgery. It is well written and full of good advice to the young graduate.

At Cincinnati in 1853 he founded the American Psychological Journal, "devoted to the elucidation of mental pathology and the medical jurisprudence of insanity." One volume only was published. It was issued in six numbers, dated from January to November, 1853, and contained 200 pages. Of it Juettner says: "It bears eloquent testimony of his ability and erudition."

After lecturing two years on obstetrics and diseases of women and children he severed his connection with the Cincinnati College of Medicine and Surgery. He also had completed a "regular and systematic course upon the highly

14. North-Western Med. and Surg. Jour. 1849, V, 56.

15. Valedictory Address to the Graduates of Cincinnati College of Medicine and Surgery, Cincinnati, 1852.

interesting subject of insanity." Juettner¹⁶ refers to his high ideals as probably the cause of his troubles with A. H. Baker, who ran the school for his own glory and revenue. He also estimates Edward Mead as probably the best educated man on the first faculty of this school. It appears from his own statements that he sacrificed his teaching position because he refused to abandon his ideals of medical teaching. In the last number of his journal he pointed out the defects in medical schools which furnish poor preparation of physicians, and concludes "In my individual action, both in the College and the others alluded to, I can rightfully claim the credit of consistency. The censure now uttered is precisely in accordance with the sentiments contained in my report on medical education published by the Illinois State Convention, and in an article transmitted to Dr. Couper of Delaware, Chairman of the Committee on Preliminary Education appointed by the National Medical Convention which met in New York in 1846, of which Committee I was a member."

In 1853 Mead opened the Cincinnati Retreat for the Insane. This was conducted by him beyond College Hill and later on in S. Mt. Auburn until 1869, when he moved to Boston. In 1872 he opened a "Psychopathic Retreat" in Winchester, Mass., and from 1873 to his death he conducted a similar institution in Roxbury. Attached to the announcements¹⁷ of the retreats are numerous letters testifying to Mead's ability. They were from prominent medical men and laymen in Ohio, among them being one from R. B. Hayes, Governor of Ohio, and later President of the United States, dated 1868. One testimonial was signed by the medical superintendents of most of the large institutions for the insane throughout the country. Mead attended meetings of the Association of Medical Superintendents of American Institutions for the Insane in 1850, 1856 and 1873.

While on a vacation trip in 1883, the vessel in which he sailed was wrecked on the coast of Pico in the Azores and he was drowned. His trunk, containing much valuable material for an extensive family biography, on which he was working, was lost.

Dr. Mead was thick set, 5 ft. 4 inches in height

and of a cheerful disposition. He spoke German fluently, and had a good knowledge of French. He was a ready writer and a good speaker and counted many of the prominent men in Illinois and Ohio of his day among his friends. During the Civil war he was an active member of the Sanitary Commission. He was a member of the American Medical Association, Massachusetts Medical Society and Norfolk District Medical Society.

Edward Mead was a man of education and culture with high ideals for his profession. He fought to elevate the standards of medical education when this was not popular with his colleagues. His humane character is evidenced by his persistent and determined efforts to secure proper care for the unfortunate insane. He stands as the pioneer student of psychiatry in this region and the first to offer institutional care of the insane west of Ohio. The establishment of the first State Hospital for the Insane in Illinois resulted largely from his efforts.

EMPYEMA*

RALPH BOERNE BETTMAN, M.D., F.A.C.S.

Adjunct Attending Surgeon, Michael Reese Hospital, Attending Surgeon Chicago-Winfield Tuberculosis Hospital, Clinical Assistant in Surgery, Northwestern Medical School.

CHICAGO

Since the war the closed method of treating empyema has been more popular than ever before. There is still, however, a large group of physicians who are unaware of its numerous advantages.

In the cases where empyema develops early—that is to say while active pneumonic process is still present—the closed method only should be used. These cases laboring under extreme respiratory difficulty cannot withstand the extra effort necessary when an open pneumothorax is superimposed on the pathological conditions already existing. Although at present few of us hold entirely to the tenets advanced by Graham and Bell during the late war as regards the motility of the mediastinum, yet most of us realize that an open pneumothorax is not well borne in the presence of acute pneumonia.

The closed method of treating empyema is attended with much less shock than produced by rib resection. The slow evacuation of pus

16. Juettner, Otto; Daniel Drake and His Followers, Cincinnati, 1909.

17. Announcement of the Psychopathic Retreat, Cincinnati, 1853, Boston, 1872 and 1874.

*Read before Section on Surgery, Illinois State Medical Society, at Decatur, Ill., May, 1923.

changes the interthoracic pressure relationship more gradually and with less disturbance than the quicker release after the usual open operation. The post-operative treatment in the closed method is very simple, dressings rarely having to be changed more than once every four or five days. This is quite a contrast to the care necessary in the usual open method, where in spite of numerous changes of dressings per day the patient is usually lying or sitting in a sea of pus.

The technique I wish to describe is an adaptation of the simple technique used before the war, which was more highly developed in the army. An operating room is not necessary. The closed method of draining can readily be carried out without removing the patient from his bed, and, if necessary, in the patient's home.

The diagnosis having been established by the usual methods of physical examination, the patient is prepared as for any operative procedure. The site of drainage is selected with regard to the position of the pus. It is not necessary to strive to obtain exactly the most dependent place. Any changes in the patient's position would cause this point to shift. It is still a mooted question whether the diaphragm does not act as an obstruction to free drainage when low incision is made. Inasmuch as the pus usually gathers posteriorly, the ninth interspace under the tip of the scapula is the usual site of drainage.

A small skin wheal is first made—procaine $\frac{1}{2}$ per cent without adrenalin is our anesthetic of choice. The subcutaneous tissues are next generously infiltrated. Then with a long, large bore needle on a 20 c.c. Luer syringe the deep intercostal tissues are anesthetized. The solution is forced out as the needle is gently pushed ahead, infiltrating the path of the needle. In this way the pleural cavity is entered with practically no pain. As soon as the needle has entered the pleural cavity, aspiration is attempted. If the fluid aspirated is thin, fairly clear and more the type of a serous fluid than frank pus, it is much better to postpone drainage, relying on repeated aspirations until the patient shall be cured or the fluid have changed into definite pus. If the fluid, on the other hand, is thick, greenish and definitely purulent, the operation is continued as follows: The skin is nicked with a sharp scalpel at the site of the needle puncture. The needle is now withdrawn and a trocar forced through the

intercostal space along the anesthetized tract. A catheter, which before the operation, had been found to fit snugly in the trocar, is pushed through the trocar into the chest cavity the moment the obturator of the trocar is withdrawn. The end of the catheter is clamped with a hemostat. It is wise to boil the catheter first before trying to fit it with the trocar, because the boiling swells the catheter and a catheter which cold will be found to fit, after boiling will sometimes be found too large. A trocar which will take an F-14 soft rubber catheter is the kind we have found very satisfactory. The sheath of the trocar is now withdrawn, leaving the catheter in the chest wall. The catheter is clamped near its emergence from the chest wall—the funnel end is cut off and the trocar removed. This funnel end is then rethreaded on the catheter and acts as a cuff which firmly fits about the catheter at its emergence from the chest wall. A safety-pin can be pinned through this cuff without going into the catheter itself, thus the air-tight technique is not broken. Two small bits of gauze at each side of the catheter and two adhesive bands complete the dressing. Dr. Greensfelder devised a thoracic binder used at the Michael Reese Hospital which has a perforation through which the catheter can be pulled and a pocket in which the catheter and its clamp is laid.

The after-treatment is the most important part of the operation. Continuous care and watchfulness are necessary. Every two hours the chest is aspirated through the catheter, not more than a few ounces at the utmost being aspirated at any one time. In order to liquify the pus and dissolve the large, thick fibrin flakes so that the catheter will not be blocked, Dakin's solution is used. After each aspiration a certain amount of Dakin's solution is injected into the empyema cavity, usually about one-third the amount of pus aspirated. This aspiration and injection is done with due regard to the maintenance of air-tight technique. The catheter is maintained in place until after the fluid aspirated has been shown to be bacteria free on three successive days. Then the catheter is withdrawn and the opening sealed with adhesive.

The temperature usually drops to normal within a few days. Within a few days also, instead of being able to obtain several ounces of pus at each aspiration only a small amount of fluid will be obtained. The fluid soon loses its

purulent aspect and becomes mucoid in appearance, although a smear would show pus cells. There will be times when no fluid at all can be obtained. This may be due to the fact that the catheter has become plugged by the thick pus or, and what is most usually the case that the empyema cavity has collapsed and the expanding lung is in contact with the eye of the catheter. In any event, a few c.c. of Dakin's solution are injected. A fluoroscopic examination may show that the end of the catheter is now above the fluid level and lies between the pleura and the expanded lung, and that withdrawing the catheter a few inches will again bring it in a position to drain the cavity. (The catheter after entering the chest walls almost invariably turns upwards instead of dropping downward as would naturally be expected.) If the pus leaks along the side of the catheter, it may occasionally be necessary to insert a slightly larger catheter in its place; this can readily be done without the use of a trocar or any other instrument except a probe. Occasionally the pus may wall itself off. Any rise of temperature should bring this possibility to mind and a careful physical examination, including a fluoroscopic examination, should be made.

The after-results of the treatment are most favorable. The lung readily expands, unless the case has been neglected. Calisthenics and the use of blowbottles materially help the expansion of the lung. In almost all cases there is a tendency toward the development of an anatomical and postural deformity. This is probably less marked after the closed method. This deformity, however, can be counteracted by the early use of specialized exercises—such as strengthening the elevators of the shoulder of the affected side to counteract droop shoulder by raising the arm into the air, bending the back to counteract scoliosis, etc.

Whether the closed method is really safer, quicker and less apt to be followed by complications, as we firmly believe, is difficult to prove. It would be necessary to have two long series of cases, one open method, one closed method, treated by the same corps of operator and assistants at the same time; that is, during the same period of the same epidemic, before a definite decision could be made. There is so much variance in the virulence of organisms in different epidemics, so much difference in the after care,

that statistics gathered over a period of years and from different men are at best inadequate.

We are convinced that the closed method of treatment is effective and that its technique is simple, and that as far as the patient and his attendants are concerned it is much more pleasant than the open method. The method that I have described was introduced at the Michael Reese Hospital by Dr. Greensfelder shortly after the war, and it has seemed to us that since its adoption our mortality has decreased, our patients have gotten well quicker, and that the occurrence of chronic empyema is greatly diminished.

104 South Michigan Avenue.

DISCUSSION

DR. DON DEAL, Springfield, Ill.: Dr. Bettman's paper was most interesting and, having used the closed method for a number of years, I feel that it is especially indicated in children and is successful in a large majority of those cases. However, in adults results are very materially reduced. The only difference in the drainage, which we employ, is the so-called airtight drainage. We feel that this gives a better and continuous drainage and is simply done by extending the rubber tube, having it submerged under water in a jar at the side of the bed. In adults the simple cases of empyema are the more favorable ones for this method.

DR. HERMAN H. COLE, Springfield, Ill.: I believe that the principles laid down by Dr. Bettman are absolutely right. If we can succeed in these empyemas in filling in the place occupied by the pus by normal lung tissue we will get away from the great majority of chronic empyemas which cause us so much trouble and cause so many reputations to go up in the air. There are many principles about operation for empyema which, while they were written many years ago, are still valuable. Particularly true is the fact that empyema immediately on diagnosis does not mean operate at that time. Wherever you have an empyema involving the entire pleural space it is probably better medicine, as shown by the Empyema Commission during the war, to keep aspirating until you get localizing adhesions so that when you make the incision you do not enter with all the shock and collapse and pneumothorax that goes with that mistake. I think we are going to use this method more and more in cases where formerly it was thought impossible. Even chronic empyemas can be made to expand and many cases will close which were heretofore considered hopeless.

DR. E. C. ROOS, Decatur, Ill.: I would like to emphasize what Dr. Cole said about aspirating some of these acute empyemas before a rib resection is done. This was done in the army and the results were very good. Another point which I think needs emphasizing was that brought out in an article in the JOURNAL

about two weeks ago; that is, many cases in which a diagnosis of empyema is made will fail to show pus with the needle in aspirating. In some of these cases the operator goes through the pleural cavity and through the diaphragm into the peritoneal cavity and, of course, fails to get pus. If he would withdraw his needle and direct it a little higher, he probably would strike pus. This can be done under the fluoroscope and the cavity located, the direction of the needle being followed under the fluoroscope to make sure it does not puncture the diaphragm.

Another point in resecting a rib, the pleural cavity should be aspirated again to make sure that the incision into the pleural cavity is low enough or high enough to strike the pus. The incision can then be guided according to the direction of the needle after the pus has been localized with the needle.

DR. RALPH BETTMAN, Chicago (closing the discussion): I am sorry we are so unanimous. I thought there would be more opposition, especially from the work I have seen in hospitals where the open method is used.

I agree with Dr. Deal that the method is better in children. I also agree with Dr. Cole that there is no necessity for immediate operation. We do not consider empyema an emergency operation unless the patient has so much fluid that it is necessary to drain immediately, because of interference with respiration and circulation.

Society Proceedings

ADAMS COUNTY

The January Meeting

The January meeting held at the Quincy Country Club, January 16, was the annual social evening of the Society and was a Stag affair. The meeting was proceeded by a banquet in honor of Dr. Wm. Englebach of St. Louis and the president, Dr. W. F. Pearce, was in the chair. Thirty-three members and one guest were present.

Following the banquet the regular business session was suspended until the February meeting except for one item of business. The Secretary explained the desirability of developing Quincy into a larger and better medical center and the advantages of publishing each month a Bulletin. He then made a motion that "The Secretary be authorized to publish monthly a Bulletin of the Society making same as attractive as possible and be permitted to sell advertising space in same to desirable merchants, etc., to help pay the expense of same at such rates as will assure the Society no financial loss. That the Society appropriate for 1924, \$100 from the treasury to help pay the expense of a monthly Bulletin. This money to be turned over to the Secretary on or before February 1. The Secretary to keep a careful record of all expenditures from this money as well as all receipts and expenditures that may be incurred in the publication of the Bulletin and to report same

at the annual meeting of the Society." After some discussion the motion was carried unanimously.

Following this brief business session the members enjoyed a most excellent talk by Dr. Wm. Englebach of St. Louis, on "Osseous Development (Roentgenologically) and the Result of Treatment of Ductless Gland Disorders," an abstract of which appears in the Adams County Medical Society Bulletin for February. This talk was illustrated by about 50 stereoptican slides and was enjoyed by all. Everyone was impressed with the original work Dr. Englebach has done with the x-ray as a means of early diagnosis in many of the endocrine disorders. Following the address Dr. Englebach answered many questions pertaining to endocrinology. Cards were enjoyed by some of the members after the conclusion of the address.

Harold Swanberg, M. D.,
Secretary.

ALEXANDER COUNTY

The annual election of the Alexander County Medical Society held in Cairo, Dec. 18, 1923, resulted as follows: president, O. M. Dickerson; vice-president, B. S. Hutcheson; secretary-treasurer, J. E. Woelfle; censor, 3 years, J. T. Walsh; delegate Illinois Society, Flint Bendurant; alternate, R. E. Barrows. After the election of officers the members retired to the blue room of the Halliday Hotel, where a seven course luncheon was served.

J. E. Woelfle,
Secy.

BOND COUNTY

The Bond County Medical Society met in Judge Biggs' office in the Court House with a goodly number present. The following officers for the ensuing year was elected: President, Dr. E. A. Glasgow, Mulbey Grove; vice-president, Dr. H. M. Vaught, Greenville; secretary and treasurer, Dr. W. T. Easley, Greenville; censors, Drs. K. B. Luzader, D. R. Wilkins and J. H. Gordon. Dr. W. T. Easley was elected delegate to Illinois State Medical Society and Dr. K. B. Luzader, alternate delegate. The following program was included:

"Chiropractor and Other Cult Healers," Dr. H. D. Cartwell.

"Wagon Medicine Peddlers," Dr. J. H. Gordon.

"Counter Prescribing by Druggist," Dr. J. L. Cor-donnier.

"County Bidding for Pauper Practice," Dr. K. B. Luzader.

"Are the Increasing Hospital Facilities and Good Roads Causing the Loss of Practice to the Doctor," Dr. A. M. Kirth.

"Must Medicine in the Future Have No Rank and File," Dr. C. H. Powell.

"What Is Organized Medicine Doing for the Rapidly Deteriorating Situation."

The above subject was discussed by all present and

many suggestions were offered. All present appeared to take good interest and are looking forward to the May meeting.

CHRISTIAN COUNTY

The Christian County Medical Society met at Taylorville on the evening of January 15 and had one of the finest meetings we have had for a long time. After a "Get together" dinner at the Antlers Hotel, the meeting adjourned to the County Court Room, where Dr. C. E. Burford of St. Louis was speaker of the evening. His address was on "Some Interesting Surgical Conditions of the Kidney and Ureter; Their Diagnosis and Treatment." His lecture was illustrated by the lantern slides made from cases of his own and were most interesting.

Besides the members of our own society there were three visitors from Decatur, who came down especially to hear Dr. Burford. That the meeting lasted until 11 o'clock is evidence of the interest of the members.

The new officers elected are: Dr. Louie H. Miller of Pana, president. All the rest of the officers were re-elected for this year. One new member was elected to membership and as soon as he registers and pays his dues he will be enrolled in this society. The meeting adjourned to meet again on the third Tuesday of July.

D. D. Barr,
Secretary-Treasurer.

COOK COUNTY

CHICAGO MEDICAL AND CHICAGO PATHOLOGICAL SOCIETIES

Joint Meeting, Jan. 16, 1924

The Present Status of Food Poisoning in the United States—J. C. Geiger, Epidemiologist, U. S. Public Health Service.

Discussion opened by John L. White, Principal Bacteriologist, Bureau of Laboratories, Chicago Department of Health.

CHICAGO MEDICAL SOCIETY

Regular Meeting, Jan. 23, 1924

1. Hematuria, With Especial Reference to Its Pathogenesis—J. S. Eisenstaedt.

General discussion.

2. A New Treatment for Hay Fever, Hyperesthetic Rhinitis and Asthma Based on the Ionized Calcium Content of the Blood Serum.—Frank J. Novak, Jr., and Abraham R. Hollender.

Discussion—Norval H. Pierce and Jos. C. Beck.

CHICAGO OPHTHALMOLOGICAL SOCIETY

(Meeting of Oct. 16, 1922, Continued)

NEPHRITIC RETINITIS

Dr. Robertson (for Dr. George F. Suker) reported the case of a boy, 14 years old, who was admitted one

week ago, complaining of periodic attacks of vomiting associated with headache. The attacks started about a year and a half ago, the interval between attacks becoming shorter and shorter, so that they now occurred every two or three days. There was no history of the disturbances of childhood.

The essential positive findings were a systolic pressure of 224, diastolic 170, giving a pulse pressure of 54. The urinalysis showed a large amount of albumin, and a specific gravity of 1011. The blood Wassermann reaction was negative.

Examination of the eyes showed R. V. 20/13; L. V. 20/13. Both disc surfaces were edematous, the margins distinctly blurred. The veins were engorged, the arteries small and there were numerous plaques of hyalin degeneration arranged around the macular region.

The diagnosis was made of chronic diffuse nephritis and nephritic retinitis. The case was interesting because of the extreme youth of the patient with such *high blood pressure* and the good vision present in the eyes.

CHORIORETINITIS PIGMENTOSA

Dr. Fink (for Dr. George F. Suker) presented a case of chorioretinitis pigmentosa.

Dr. Oliver Tydings presented a young lady who showed a pigmented spot on the caruncle, which had existed for a year. Microscopic examination had not been attempted.

SARCOMA OF ORBIT

Dr. Michael Goldenburg presented the case of a man, 42 years old. He first noticed a swelling the size of a pea over the left lacrimal sac one year ago, which disappeared after about six weeks, recurring two months later, and had gradually increased in size. The growth had been much more rapid during the past six or seven weeks. It had broken open at two points during the past week and was discharging slightly at present.

There was a reddish, angry swelling about two by three inches, which projected about an inch and a half. The eye was proptosed and pushed outward from the midline very markedly. Over the lacrimal area there were two smaller rounded swellings. To the temporal side of these swellings was a crevice where the skin was broken open. Temporally and $\frac{3}{4}$ inch below this was a $\frac{3}{8}$ inch opening in the skin which discharged a small amount of yellowish serous fluid. Large branching veins could be seen plainly under the skin surface. The right and left consensual reactions were good; the left eye reacted slightly to light; the left eye was blind except for light. Three weeks ago he could count fingers at 18 inches, to the nasal side.

Fundus: The disc could not be located. Many hemorrhages were present, retinal and subhyaloid. The vessels were tortuous. Many white areas were present. On the nasal side it looked as if some detachment of the retina were taking place, with a possibility of a neoplasm breaking into the eyeball. The blood Wassermann reaction was negative.

The diagnosis was that of sarcoma, probably originating in the ethmoid.

DISCUSSION

Dr. Elbert Clark stated radium was applied externally on July 18 for 4,200 milligram hours, screened with 0.6 mg. gold, 1 mg. silver, and 1½ cm. rubber. This application was changed every six hours for forty-eight hours. On July 25, 2,712 milligram hours were used, five pieces of radium being embedded in different parts of the tumor, and so arranged as to be not over one centimeter apart. No other treatment had been employed. There was a rather violent reaction, with a little more swelling and edema.

INDUSTRIAL EFFICIENCY WITH POOR VISION

Dr. W. A. Fisher presented a man to show what could be done with 20/200 vision. He was 38 years old. At the age of 11, when in the fifth grade at school, he contracted smallpox. The left eye was removed by the late Dr. Beard, and he attempted to restore vision by an iridectomy on the right eye. The patient was blind from the age of eleven until he was thirty. An iridectomy performed at that time gave him 20/200 vision. He then learned the brick laying trade, and for the last five years had been drawing full pay as a brick layer. The interesting thing was that he was now a useful man, drawing the same wages as though he had 20/20 vision. He would be classed as industrially blind on account of the 20/200 vision.

LENS EXTRACTION BY BARRAQUER TECHNIC

Dr. W. A. Fisher presented a lady to show that the lens could be removed by the complete Barraquer technic, carried out as Barraquer was doing it at this time. He was not operating according to any paper that he had ever written. His latest paper, not yet published, would be something quite different. Barraquer in that paper would present 112 original pictures, giving his technic in full. In this case the technic was that which Barraquer used in Richmond and Philadelphia in April, 1922. All the patients were left with nice round pupils. In the first place he dilated the pupil with eucain and cocain, using it every fifteen minutes for an hour and a half, or until the pupil was fully dilated. He then made an injection of novocain across under the lower lid, one downward and one upward. In every operation he turned the lens upside down, bringing the lower edge up first, and no pressure was used. The operation was done with a dilated pupil with a very small peripheral iridectomy, as in this case. In several cases the novocain produced a paralysis of the orbicularis, and stitches were put into the skin of the lids to keep the eye closed. The patient was in the hospital nine days, did not have any postoperative inflammation and had 20/20 vision.

MYDRIATICS AND CYCLOPLEGICS

Dr. G. Henry Mundt read a paper on this subject, in which he stated that one of the very important works of the ophthalmologists was refraction and a vast majority of competent men considered a cycloplegic one

of the prime essentials of good refraction. He considered the isomeric substances hyoscin hydrobromid and scopolamin hydrobromid identical, since Merk labeled them so; also this was a practical settlement of their difference which had been extensively discussed. He was thoroughly convinced that in refraction every patient under forty years of age should have a cycloplegic; that nearly all those between forty and fifty should, excepting those who had normal vision and apparently did not need distant lenses and had no symptoms other than poor vision for close work. Practically all patients under fifty years of age should be refracted with a cycloplegic. In myopia it was as essential to use a mydriatic as in any other class of cases. He could not subscribe to the view that hyperopia was the indication for refraction with a cycloplegic. If one was to determine with accuracy the total error of any patient, the one right method was to use a cycloplegic, and before any one was really competent to prescribe lenses, he should know the total error of refraction.

As to the comparative value of the three common cycloplegics, homatropin hydrobromid, hyoscin hydrobromid and tropin sulphate, for refraction up to the age of fifteen or sixteen years, homatropin hydrobromid was probably the poorest drug for use in these cases; because while its mydriatic action might be complete, the essayist thought it was a failure as a cycloplegic at this age. Atropin sulphate was probably the best drug when used properly, because of its certainty of action and its relatively low toxicity when compared with hyoscin hydrobromid. Hyoscin hydrobromid was a drug of first value; and in selected cases with proper precautions in its administration it was very reliable, nearly as reliable as atropin sulphate.

As to the method of administering *homatropin* hydrobromid, he used a fresh solution (made fresh at least once a week) of 2 per cent homatropin hydrobromid and 1 per cent cocain hydrochlorid. This was dropped in the conjunctival sac every five to ten minutes a varying number of times, dependent upon the age of the patient, from 15 to 20 years 8 times; 20 to 30, 6 times; 30 to 40, 4 times; 40 to 50, 3 times, and beyond 50 once or twice only.

As to the use of *atropin* for refraction, a one per cent aqueous solution was used four times a day for three or four days, in patients beyond six years of age; 3 to 6 years a one-half per cent solution and a weaker solution below three years of age.

The *hyoscin* hydrobromid was used in a solution the maximum dose in adults being two drops of one-half per cent solution, with the excess mopped up at once and pressure made over the sac. This meant that one drop might be used in each eye, or two drops with an interval in one eye. This was the maximum dose and must be used with great caution. He more frequently used a one-fourth per cent solution, but in iritis the one-half per cent solution was much more active. The one-fourth per cent solution might be used twice with care as young as twelve years; from

12 to 8 about one-sixth or one-eighth per cent, from eight down, much weaker.

DISCUSSION

Dr. Oliver Tydings fully concurred in the opinion that hyoscine and scopolamine were the most important of the cycloplegics. He did not agree with the essayist as to the strength of scopolamine to be used. Dr. Mundt spoke of a $\frac{1}{2}$ of 1 per cent, Dr. Tydings used it in about $\frac{1}{5}$ of 1 per cent. He did not hesitate to send a patient out with scopolamine any more than with atropine. He did not believe that in the last fifteen to twenty years he had used atropine in one case out of a hundred. The cycloplegic action that was obtained from scopolamine, in one-half or three-fourths hour, could only be obtained from atropine in three days, or sometimes longer.

He did not agree with Dr. Mundt when he advised atropine or scopolamine as a cycloplegic in all cases. He thought one could refract many cases without any cycloplegic at all.

Dr. Thomas Faith referred to two points not mentioned in connection with homatropine and scopolamine. One was that much of the homatropine had been very faulty for a year or so. There had been many instances in which the effects had lasted for days. A peculiar thing he had noticed in connection with homatropine was that frequently he could get $\frac{1}{2}$ to $\frac{3}{4}$ more plus sphere without homatropine, than he could get with it.

Another thing in connection with the use of scopolamine was that he had used it in a strength of one grain to the ounce and found it deteriorated very rapidly. In a very short time scopolamine would not be of any value, even at the end of a week sometimes. He had not used $\frac{1}{2}$ of 1 per cent of scopolamine, but always had adhered to the weaker solutions. He had given scopolamine to use at home, giving them $\frac{1}{4}$ grain to the half ounce and had it applied once or twice a day for several days, and then followed with two or three instillations of scopolamine in the office, usually two, at one sitting with a 15 to 20 minute interval. The advantage of this was that instead of having two weeks mydriasis he had two or three days. There was a tendency to get away from homatropine and scopolamine and all cycloplegics, but he felt that the refraction was not as good when done without them. He manifested his patients, used homatropine or scopolamine up to forty; after that he used homatropine occasionally, but not as a rule. He did not rely on homatropine as he did a few years ago, but he did use scopolamine right along.

Dr. Mundt: As to the strength of hyoscine, the maximum was $\frac{1}{2}$ of 1 per cent. He said he more frequently used $\frac{1}{4}$ of 1 per cent but one could use $\frac{1}{2}$ of 1 per cent, and it was very active. He did not prescribe it as a cycloplegic because he thought it was too active to put into the hands of a patient. He thought scopolamine was about like putting a can of ether in the hands of a patient.

As to the activity of hyoscine, there were three isomeric substances. One diverted light to the right, one to the left, and one was non-light diverting. The non-light diverting was absolutely nondilating. He thought there was no question that homatropine was not constant.

RESULTS OF COL. SMITH'S CATARACT OPERATIONS

Dr. W. A. Fisher read a paper correcting earlier reports (See v. 5 p.) which he published in full in this journal.

DISCUSSION

Dr. Thomas Faith stated that the intracapsular operation must stand on its own merits, and it should be given this opportunity. At the December meeting he made the statement that he could not understand the great difference in the results at the Illinois Charitable Eye and Ear Infirmary and the Chicago Eye, Ear, Nose and Throat Hospital, because he had watched the Smith method for several years and the freedom from postoperative inflammation was striking and had been well set forth by Smith in his various writings. He saw the four cases mentioned by Dr. Fisher and was able to obtain 20/20 vision without any difficulty in three, but the fourth being a fundus lesion could not be expected to have

normal vision. However, the surgical result in this case was excellent.

ROBERT VON DER HEYDT,
Corresponding Secretary.

THE CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The November meeting of the Chicago Laryngological and Otolological Society was held jointly with the Chicago Medical Society on Wednesday evening, November 1, 1922.

The President, Dr. Charles H. Long, in the chair.

Prof. Robert Bárány, Upsala University, Sweden, delivered an address entitled "Oto-Neurology and the Necessity of Cooperation Between Ear and Eye Specialists, Neurologists and Brain Surgeons."

Professor Bárány took up, first, the historical development of various tests in connection with otological and ophthalmic work. He stated that the anatomy of the vestibular apparatus had been known for several hundred years. Many sane observations had been made, but there were many speculations. For instance, during an attack of vertigo involuntary eye movements occurred, but no one in those days took the trouble to investigate why these eye movements occurred. Purkinje had the opportunity to observe the eye movements in vertigo in cases of insane people, who were placed in cages and turned around until they became nauseated, and eventually they quieted down. While this treatment was said to be effective, it did not seem humane. Purkinje studied the eye movements of these patients and found that under normal conditions eye movements were obtained by holding the head in different position, and different results were secured, and Purkinje came to the conclusion that it was the head which was directly influenced by the drum. But he drew a wrong conclusion; it was the brain which was irritated by the drum. There must be a sense organ before the brain could get a sensation, and Purkinje thought the brain got the sensation directly. In the same year that Purkinje was doing his work Fleron made some experiments on pigeons. He dissected the different canals in pigeons and found that when he dissected the horizontal canal, which lies in a horizontal plane, the pigeon turned in a horizontal plane; that if he dissected the vertical canal, the pigeon would make curious movements which he could not understand. He did not think these birds were dizzy, and that it was vertigo which produced these movements. Purkinje was familiar with dizziness in man but not in the dizziness of animals. He came near making a discovery, and if he had turned one animal he would have seen the difference between the dizziness of man and the dizziness of animals. Other men repeated the experiments of Purkinje and Fleron without discovering anything especially new. In the year 1861 Meniere's disease was brought to the attention of the profession. At that time Meniere was sixty years of age and his discovery was considered unusual, but it was accepted. He had practiced as an ear specialist

for many years, and frequently saw cases in which dizziness occurred. At this time, if patients presented themselves with attacks of dizziness he immediately made a diagnosis of cerebellar tumor. He had made several autopsies in such cases and had found cerebellar tumor in some of the cases. Meniere studied his cases carefully and found some patients who had had dizziness for thirty years, but who never developed cerebellar tumor, so that he came to the conclusion that his diagnosis of cerebellar tumor was incorrect when based on dizziness alone. He began to look for some other explanation and he found these cases always had dizziness, tinnitus and earache, although the ear drums were normal. The tuning fork was unknown at that time, but Meniere concluded from these other symptoms that these patients must have some lesion of the inner ear. The cochlea was for hearing, but it was not known what importance the semi-circular canals had. Meniere received inspiration from the experiments of Fleron and believed dizziness was the cause of the movements of the eye in animals without ever having turned an animal or examined it himself. He came to the conclusion that the dizziness of patients was due to some disease in the semi-circular canals. It was subsequently pointed out that he was right in reaching that conclusion. He published several articles on what is known as Meniere's disease prior to his death. It was thought that Meniere's death did much to promulgate his theory, because Dr. Bárány believed that if he had not died his colleagues probably would have fought him, but instead they made a national hero of him.

In 1870 a German physiologist by the name of Glotz repeated the experiments of Fleron and advanced the theory that if the semi-circular canals were diseased the animals lost their equilibrium; therefore, it was probable that the function of the semi-circular canals was to maintain equilibrium. Other men who made observations and experiments were Breuer and Mock, of Vienna, and Brown in America. Brown in turning animals saw that he produced the same movements as by dissecting the semi-circular canals. He maintained that irritation of these canals was the cause of dizziness, because it was very clear the animals became dizzy. On the other hand, if he destroyed the canals on both sides the animals were again made dizzy. He advanced the theory that the movements of the endolymph, produced by turning, were the cause of irritation or of stimulation of the canals. Mock came to the same conclusion by other experiments which he made, but in a logical and philosophical way concluded that all the other causes could be excluded, and only the semi-circular canals remained to produce the sensation of turning. Brown examined normal individuals with turning sensation in different positions of the head, and said there could be no question that it must be the semi-circular canals which produced sensation because the brain could not directly take its position. These men were not ear specialists; consequently ear specialists for a long time did not appreciate this theory on the ground that they had not found pathologic cases. Some examinations were made

of deaf mutes after the turning method of Breuer, but except for these findings there was not much learned. Quite a number of men had made valuable observations; among them Yansen, of Berlin, who saw a large number of cases of fistula or lesions of the labyrinth, and was one of the first to advocate operating on the labyrinth when it was suppurating.

When the speaker began to examine these patients he had received three years' training in the Clinic of Pollitzer, of Vienna, and had studied the literature on the vestibular apparatus in which he became very much interested. At the clinic he syringed those cases that had fistula of the attic of the tympanum, and in so doing observed the patients became dizzy. From what he had read of the work of Breuer, it was clear to him in looking at the eyes that nystagmus was present. When he syringed the right ear he noticed nystagmus which he designed in such a way that there was horizontal and rotary nystagmus to the left. This observation was noted on a sheet of paper which he put in his pocket. The next day he had another case of nystagmus which was treated in a similar way. He recorded this observation on a sheet of paper and put it in his pocket. In a short time he found he had something like twenty such cases that he had recorded and was astonished to find that he had always observed the same thing. He found that if he syringed once on the right side, and then the left side, he became confused, and it was clear to him that there was a law behind this, but he had no idea what that law might be. One day one of his patients came to the office and when he syringed his ear again the patient exclaimed, "Doctor, the water is too cold; when I syringe the ear myself at home I never get dizzy." The speaker then said to the nurse that the patient had complained of the water being too cold. The nurse in reply said it was not true; the water was not cold, as she had tested it with her finger.

The speaker pointed out the necessity of having the water warm. Subsequently the nurse made the water very warm, and after syringing the ear again, patient's eyes he immediately saw that the water had produced the opposite nystagmus. It was the temperature of the water which had produced this opposite nystagmus. This observation was a step to other conclusions. If it was the temperature of the water which produced this effect in suppuration of the attic, might not this phenomenon occur in other cases? He examined other cases after syringing with cold and hot water and found that all cases with normal drums showed the same phenomenon, only it took a little longer time to get it, as in a case where there was no drum. Up to this time he did not know how cold and hot water could influence the labyrinth to produce this nystagmus, but one day he saw an explanation for it. (Here Professor Bárány with the aid of blackboard diagrams showed how hot and cold water could influence the labyrinth sufficiently to produce nystagmus.) He found that if the labyrinth on one side was destroyed, he did not get this reaction, so he sought for cases that had no reaction and he found such cases with no colloid reaction, and when

he operated on it was found the labyrinth was destroyed, with the presence of cholesteatoma. The clinical value of the test became evident to him, and it was now possible to examine every vestibular apparatus. If one syringed the right ear with cold water, nystagmus was produced, the patient became dizzy, so that when he closed his eyes the sensation was to turn to the left side. He found subjective dizziness on turning sensations.

There were reflex reactions upon other muscles of the body besides the nystagmus. Such a nystagmus could be observed in man. If he got a falling reaction he could not stand erect with his feet together in the Romberg position; he would slowly fall to the right side. If his head was turned to the left side the falling was changed; he fell forward. If he turned his head to the right side he fell backward.

In thinking about the mechanism of the falling reaction he employed a method which he found had been developed by Exner, a physiologist, who had written a book on the subject. Exner, he said, tried to construct mechanisms in the brain or in the spinal cord which would produce physiological effects. These mechanisms were constructed upon the neuron theory. The speaker had found this method of Exner's valuable for constructing mechanisms in the brain and also for the vestibular apparatus. Possibly somewhere in the brain there was a cell which received its impression, and through this cell there was innervation down to the spinal cord, so that the patient fell to the right side. There was some stimulation of the semi-circular canals during the turning of the head which produced this change. He found that if he held the head in the same position and turned the body, and not the head, he got the same change, so that the cause of this change was not in the head, it must be in connections between the head and trunk, and he came to the conclusion that it must be in the deep sensibility of the neck. After making other observations and tests he saw there was a double influence exerted on one center, and the question was where was this center situated? This center received impulses from the semi-circular canals and impulses from deep sensibility of the neck.

He then studied the literature on the histology of the brain to see if he could find where this center might be. He thought it might be the principal nucleus of the vestibular nerve, but he could not find this center in the deep sensibility of the neck. He found, however, the deep sensibility of the neck extended into the cerebellum, and therefore he concluded that it extended into the vestibular cerebellum, and not in the medulla oblongata. If the vestibular mechanism was destroyed he was not able to get this influence. Then he went to work to find out if there was disease in the cerebellum. He found such a case on which an autopsy was held, showing a tumor in the cerebellum. Several months later he was called upon to make a diagnosis in a case where neurologists could not find out on which side of the cerebellum the tumor was situated, and he was asked to find it out by his method of examining the right and left ears. After making

tests he was not sure himself on which side the tumor was located, but finally decided it was on the right side. It was subsequently found that the tumor was on the left side.

He began to study the literature on the subject and found an interesting book by Bolk on the cerebellums of mammalia. In this book Bolk presumed that the cerebellum had something to do with innervation of the muscles and compared the cerebellums of different mammalia with each other. He found the giraffe had an enormous neck, well developed, while the neck was nearly absent in the mole, and concluded that this part had to do with the innervation of the neck. After comparing the cerebellums of different animals he concluded that the hemispheres of the cerebellum must have something to do with the innervation of the extremities and the middle part of the cerebellum had to do with the innervation of the trunk. In one case he found a tumor was situated in one hemisphere and not in the vermis, and therefore could not make the diagnosis before operation. By the pointing test he found innervation of the extremities in the same way as innervation of the musculature of the trunk and falling reaction.

The pointing test and falling reaction were not such simple reactions as nystagmus. Nystagmus was quite independent of the will of the person. Fixation could diminish the nystagmus and sometimes inhibit it, but if fixation was excluded one could see nystagmus exactly as it was without any influence upon the side of the person. The falling reaction was influenced by voluntary movements. If we got such innervation in the right side, a person could fall to the left side, so that the reflex movements were not so easy of investigation as nystagmus.

Pahological ear cases were more frequent than cerebellar lesions. Tumor cases were difficult because the tumor was only damaging the parts where it was situated, but the whole brain was being pressed upon in different directions, producing hydrocephalus and a number of symptoms, so that these cases were not so simple as the ear reactions in diseases of peripheral organs. Therefore, it was necessary to have the co-operation and collaboration of many men to develop this work. There was still an enormous amount of work to do which would take many years, and specialists should cooperate in every way in carrying out further research work which would eventually result in not only great benefit to the patients themselves but to mankind in general.

DISCUSSION

Dr. George W. Hall said that Professor Barany had rightly stated the difficulty of exact localization in cases of brain tumor because of pressure in distant parts of the brain, and he would like to ask him for information what light he could give from his tests in cases of occlusion of the posterior inferior cerebellar artery, which causes certain vestibular manifestations?

Professor Barany replied that he had examined two or three cases of occlusion of the posterior inferior cerebellar artery, and in one case there was marked nystagmus, which was to be explained by a lesion in the medulla which occurred near the nucleus descendens of the vestibular nerve. He

had seen severe disturbances of equilibrium in these cases, and the question arose whether it was the nucleus which was affected, which had connection down to the spinal cord, or whether it might be a lesion extending into the cerebellum and causing trouble there. He had also observed that certain pointing reactions were not present in such cases. If it was a lesion of the cerebellum or of the tract traveling down into the medulla oblongata, if certain pointing reactions were not present, then probably the lesion was in the cerebellum and hemisphere, and not in the medulla oblongata.

He had not been able to make autopsies on any of his cases, but he mentioned one case reported in the literature by a German in which a postmortem was made and the findings corroborated the symptoms manifested during life. In most of the cases that came to postmortem he said these tests had not been made; if they were made, they were incomplete, and it was not possible to reach a correct conclusion if one did not make a complete examination. In some of the cases he had seen reported in the English literature in which spontaneous pointing was found and eye pointing reactions to the turning or syringing, there was only an examination of pointing in one plane, and not in the other. Incomplete examinations did not help very much. In such cases there must be an exact examination, and then it would be interesting to compare these examinations with the autopsy findings. These cases were suitable for drawing deductions because the tumors were not pressing and making other symptoms.

Dr. George E. Shambaugh stated that there was one practical question which often confronted a physician, and that was the question as to whether in cases of vertigo the disturbance arose from the internal ear or from an intracranial disease. It must be quite clear to everyone present from what Professor Barany had just said that vertigo and disturbances of equilibrium could be produced as readily from diseases of the posterior brain fossa as from alterations in the internal ear. Dr. Shambaugh believed that the otologist was able with very few exceptions to determine definitely whether the disturbance of equilibrium arose from internal ear disease or whether it was being caused by intracranial trouble.

This was always the first important question to determine in the cases of vertigo. He was not so confident that our interpretation of the reactions obtained by applying the Barany tests, as they were now called, had reached such a point that we were able in many cases to determine anything more than that we had to deal with a disease in the posterior brain fossa. His experience had convinced him that these tests, when properly applied, and where they were properly understood, would often give a definite clew regarding the existence of some obscure intracranial condition much earlier than the neurologist could find any evidence of these conditions.

Dr. H. I. Davis said it was not easy for the neurologist to answer certain questions, as was proven in a case seen by Professor Barany and himself. The patient had had attacks of dizziness and disturbances of equilibrium and at one time mild epileptic seizures were suspected. On investigation the patient was satisfied that she had never lost consciousness during any of the attacks, and after repeated examination it was thought the labyrinth might be responsible for them. When the patient was carefully examined by Professor Barany the presence of moderate nystagmus was disclosed, and the question was settled in favor of the labyrinth.

Dr. Archibald Church was gratified to learn that even Professor Barany still found difficulty in the interpretation of these complexes. The speaker had the impression that in one or two conditions a definite combination of symptoms developed. In these caloric tests, the turning test, the pointing test, and falling inclination were quite precise, as, for instance, in tumors of the pontine angle—the acoustic tumor in particular. He had a feeling that the neurologist picked out these cases as soon as the otologist, and he recalled several patients whom otologists had accused of having cerebellar and brain tumors because of some modifications in the responses induced by the Barany tests. These patients had some bad moments under the impression gathered from

the otologist that they were the possessors of brain tumors. However, this supposition was not verified by the clinical histories extending over a period of a year and a half, two and three years, respectively. The interpretation of these signs and symptoms was extremely difficult, and what at first promised to give an easy avenue to correct diagnosis of a localizing character, he was afraid in the great majority of cases, only served either to confirm neurological observations or else to confuse them. The subject was one in the study of which all should cooperate. The fruits only would be gathered after much data had been carefully collected and thoroughly sifted.

Dr. J. Holinger thought everyone, after listening to the remark of Professor Barany, got the impression that it would take an enormous amount of joint work on the part of pathologist, neurologist, physiologist, ophthalmologist, and anatomist in order to work out all the questions that were involved. He believed we have no facilities to undertake such work. Many beautiful views had been opened up in various directions, but we have no men, no clinics or laboratories to undertake these investigations. The facilities for doing such research work are not at our command either in Chicago nor in any other great medical center in the United States. It was high time for specialists to begin to work jointly in order to get an insight into the complicated workings of the brain, eye and ear, for the best welfare of patients and of humanity in general.

Dr. Clarence A. Neymann inquired of Professor Barany about those cases of psychogenic pseudo-nystagmus with certain of the other reactions that recover or are improved after psychoanalysis. He recalled the case of a young girl whom Professor Barany had seen in St. Louis. This girl showed certain reactions as to past pointing, etc. She was totally incapacitated for work until a definite psychic complex was unearthed. She still showed some reactions but improved as regards dizzy spells and was able to work.

He had had several other cases in which there were attacks of tinnitus aurium, dizziness, or vertigo that had done remarkably well under this sort of treatment, and he asked Professor Barany if any psychic influence could change these tests.

Professor Barany, in replying to Dr. Neymann and in closing the discussion, stated that he had never seen hysterical nystagmus. It was possible, however, that hysterical patients could produce eye phenomena, such as convergence, which was not at all infrequent. It was possible for a patient to produce voluntary nystagmus. He knew of men who could produce voluntary nystagmus, and he could do it himself.

Another thing: hysteria was produced by disease of the vestibular apparatus very often, and then it was possible by treatment to improve the hysterical symptoms. For instance, he had seen a woman with moderate attacks of nystagmus, and by stimulating eye movements from the vestibular region she felt very dizzy. It was possible by some means to get rid of this sensibility to nystagmus.

As to the girl he saw in St. Louis, the patient was not cured by psychoanalysis. She had quite definite trouble when he saw her after treatment. Probably her hysterical psychosis had been improved, and one could by treating the hysterical psychosis or hysterical symptoms get improvement, but a real hysterical nystagmus he had not seen. It was quite another thing with the past pointing which could be produced voluntarily. One could past point and this could be influenced by hypnosis and by other methods. He had a patient in Upsala who had dizzy spells with nystagmus and past pointing. One day he got the idea of putting a noisy apparatus in her ear, which he did, and then the past pointing completely disappeared. In another case he used a tuning fork on the skull and the past pointing disappeared. The past pointing could also be made to disappear by psychoanalysis.

He did not believe that hysteria was a disease situated in the medulla; that hysteria was a subcortical disease and was not situated in the medulla oblongata, nor in the vestibular nerve. One could detect spontaneous nystagmus by tests, also spontaneous past pointing. There was a diminution of certain reactions in tumor cases where neurologists had not

found anything. He saw such a case recently at the Mayo Clinic.

If one desired to make an accurate diagnosis in these cases he must be familiar with the various apparatuses, otherwise he would make mistakes.

CHICAGO OPHTHALMOLOGICAL SOCIETY

November 20, 1922

Vice President Frank Brawley in the Chair

IMMUNE REACTIONS OF UVEAL PIGMENT

Dr. Alan C. Woods of Baltimore, Maryland, read a paper on "The Immune Reactions of Uveal Pigments and Their Clinical Significance."

IMMUNE REACTIONS OF LENS

Dr. Ludwig Hektoen of the John McCormick Institute for Infectious Diseases, Chicago, presented a further report on his research work on the immune reactions of the crystalline lens.

DISCUSSION.

DR. ROBERT VON DER HEYDT said that it was with great interest he heard Dr. Hektoen's remarks about the difference in the biological behavior of the fetal lens compared to the whole adult lens substance. In view of the fact that we now find such a great difference in the pathological behavior of the lens cortex compared to the embryonic nucleus, which is the lens at birth, and also in view of the anatomic contrast, might there not be quite a difference in the biological behavior and the relation of the cortex material, compared to the nuclear material of healthy or cataractous lenses? This material could be obtained by macerating the lens, thus separating the cortex from the nucleus.

Another question he would like to ask is this: If we operate on one eye for cataract and leave some of the cortex in the eye, as was often done, could the left in cortex hasten or inhibit the progression of cataract development in the other eye?

This was something ophthalmologists may in time be able to formulate an opinion on, and he thought it might be interesting to know whether Dr. Hektoen thinks it would have such an effect.

DR. OLIVER TYDINGS said he would like to ask one question from a purely clinical standpoint. When an eye retained a certain amount of inflammation for a time and was then lost, what effect would that eye have upon the development of sympathetic trouble in the other eye in after years? He would like to know whether any observations had been made along that line.

DR. HEKTOEN, in closing the discussion, and in answer to Dr. Von der Heydt stated: that in cataract the cortex contained more of alpha crystallin than beta crystallin. As to the possible effects of leaving some of the cortex of the lens in the eye, that is, as to the influence this might have on the patient in addition to its local irritating action, nothing definite could he said at this time. In the rabbit it is extremely difficult, except under special conditions, to obtain any lens precipitin by injecting rabbit lens, but whether the analogous condition obtains in man is not known.

In answer to a question by Dr. Woods, he said that so far his work had been limited to precipitin reactions.

ROBERT VON DER HEYDT,
Corresponding Secretary.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otolological Society was held on Monday evening, December 4, 1922, at the Hotel Sherman.

The President, Dr. C. H. Long, in the Chair.

PRESENTATION OF CASES

DR. ELMER L. KENYON presented a young woman of twenty-seven, a teacher, who had had a uniformly impaired voice for twenty years. No physical cause in the larynx was evident excepting a bowed action of the vocal cords on phonation. The case would ordinarily be classified as a functional neurosis of the intrinsic muscles of the larynx. But since the intrinsic muscles could not function without cooperation of the extrinsic laryngeal musculature the old habit of studying only the action of the intrinsic musculature in such cases was also evidently wrong. In fact, in this case the action of the extrinsic musculature was also evidently imperfect. Dr. Kenyon believed the trouble to be one of imperfection of vocal technic acquired in childhood, and that the trouble was correctable by vocal training.

DISCUSSION

DR. NOVAL H. PIERCE thought Dr. Kenyon opened up a very interesting field in his attempt to study the extrinsic muscles in the act of phonation. There was no question as to the fact that they had much to do, especially with the singing voice, but he thought it would be difficult to tell whether they were acting properly or not. It was quite easy to tell the actions of the intrinsic muscles. It was not so easy to determine the actions of extrinsic.

DR. KENYON said that in the falsetto voice of puberty and in dysphonia spastica one could observe a definite disturbance in the action of the extrinsic musculature of the larynx. If one was to solve functional disturbances of the voice it must be by observation of the complete musculature on which vocal cord action depends, and not by observing merely one phase of such action.

Dr. Kenyon was attempting to accumulate facts in a variety of functional vocal disturbances. The x-ray might eventually be of service.

DR. ALFRED RUNDSTROM presented two cases of ozena, one a case of genuine ozena, the other of hereditary leucic ozena.

The first case was first seen two years ago. At that time the nasal cavities on both sides were filled with fetid crusts, the meati were wider than normal, the inferior turbinate bone was already atrophic. He had removed the concho media and opened the ethmoid cells and sphenoid sinuses on both sides. A cario-necrotic process was present. The left side had healed perfectly. On the right side there was still some secretion but the bones were covered partly with mucous membrane, partly with granulations.

In the second case also the ethmoid cells, and the sphenoid sinus on both sides were the seat of a cario-necrotic process.

These two forms of ozena resembled one another very much although different as to the etiology.

DR. MILLARD F. ARBUCKLE, St. Louis, Mo., addressed the Society on "Complications of the Naso-Sinuses."

ABSTRACT

DR. ARBUCKLE said on October 20, 1922, he presented to the St. Louis Pediatric Society a few cases of acute parenchymatous nephritis, sometimes called nephrosis, in which the results following treatment in suppurative diseases in the nasal accessory sinuses, had been sufficiently noteworthy to justify reporting them.

They have had about twelve cases at the St. Louis Children's Hospital and in private practice. In these cases there was marked general anasarca, albumin in large quantities in the urine, casts and red and white blood cells also present in some. In all the cases, except one, suppurative disease in the nasal accessory sinuses was found.

In view of subsequent experience, he believed, there was sufficient evidence in that case to justify the diagnosis of ethmoiditis and sphenoiditis, since the mucosa in the olfactory fissure was red and thickened. In some the antrum alone, either on one or both sides, was involved and in some the upper nasal cells alone were involved. In all cases, except the one just referred to, improvement in the general condition was noted so quickly after improvement in the nasal condition, that it seemed certain the nasal suppurative process was the causative factor for the kidney condition. This single case just referred to died without improvement.

In one case of antrum suppuration seen first February 5, 1922, the results were most striking. The antra were irrigated on several occasions, and quantities of pus were recovered by irrigation. Immediately after this there was rapid loss of edema, and the chemical and microscopical findings in the urine at once began to return to normal. After about ten days there was an increase in the edema and in the amount of albumin and microscopic findings. The antra were irrigated and found to contain pus. Improvement like that noted after the first irrigation again occurred. This treatment was repeated on several occasions within a few weeks with similar results in each instance. This case was a fair example of the results obtained in cases of antrum suppuration. In some cases of suppuration of the upper nasal cells, the nose was treated by the installation into the nose of a 1 per cent. mercurochrome (220) solution twice daily. There was rather prompt and continued improvement in the suppurative process in the nose. As in the other case, the improvement in the general condition was parallel to that in the nose. After the urine had become normal generally in ten days to two weeks, these children were placed on normal diet without any recurrence, so far of the kidney condition after the nasal condition had cleared up.

Prior to the institution of nasal treatment they had failed to respond to the treatment usually given these cases—rest, special diet, etc.

Three cases were reported in detail.

DISCUSSION

DR. L. W. DEAN was much interested because he had had an opportunity to treat a number of cases of nephritis in infants and young children who had suppurative para-

nasal sinus disease. His results were just the opposite of those obtained by Dr. Arbuckle. All the cases treated, however, were cases of subacute or chronic nephritis. Dr. Dean had been informed that in Portland, Oregon, the same good results in nephritis in infants and young children, as reported by Dr. Arbuckle, were secured by treating suppurative paranasal sinus disease.

DR. EDWIN MCGINNIS was much interested because this was confirmatory of some work Dr. Carey had been doing on some interesting cases, the bacteriology of the nasal sinuses and not the pathological condition. They found the *Staphylococcus aureus* hemolyticus and experimentally could also get a nephritis from an intravenous injection of the bacteria. Recently in the practice of Dr. Gill he had seen a case of *Staphylococcus aureus* antrum infection and cleaning up the antrum eradicated the nephritic condition.

DR. ARBUCKLE (closing), said that giving gas to these children did not seem to injure them in any way. He believed it to be a general toxic condition of all the cells of the body, and not of the kidney alone, and that it was the cause of a disturbance of cell tension. Their bacteriological work was being done but was not complete and consequently he did not wish to mention it.

SCIENTIFIC PROGRAM

DR. NORVAL H. PIERCE presented a further report on "A New Method of Closure of the Eustachian Tube."

ABSTRACT

DR. PIERCE said that there were two problems to be considered: First, the closure of the tube and, second, the fixation of the flap over the tympanic end of the tube. He started in by knotting a strand of catgut and passing it up the Eustachian tube after attaching it to a bougie, the knot being sufficient to hold well in the isthmus, and then it was withdrawn through the nose and cut off and then drawn up again into the nose through tympanic cavity and cut off there. This proved unsatisfactory because it often did not hold and he then thought of using a flap. The taking of a flap from the posterior surface of the mastoid was an old procedure. It occurred to him that by fixing the catgut in the isthmus, the end projecting through the cavum would be sewed through this flap and by anchoring it with a split shot it could be held in contact with the tubal opening, the tube to be well curetted and the tubal cells well broken down so that there would be a raw surface to which the flap could adhere.

He had had seven cases and there was no failure so far as he knew. There was one failure in a case he had not seen since shortly after the operation. That case was in a child who had been operated previously and there was a scar and a fistula from which pus was discharging. The child was tuberculous and the operation did not go well. The stitches had to be removed a day or two after the operation from the wound behind the ear and there was a wound which healed by granulation. When he saw the child about two weeks after operation there was no sloughing, but he had been informed that this had occurred since then. The operation was not so well adapted to cases where a mastoid scar existed. The elevation of the tissues for the flap was much more difficult and there was no doubt that nutrition of the parts had been so materially

decreased that failure might follow by a sloughing of the flap. One charming young woman had a lock of hair growing out through the meatus as a result of the hair being caught in the flap. The last patient operated by this method was dry in a comparatively short time and the hearing was very markedly improved. All the cases were carefully tested out as to the cochlea, vestibular apparatus and the stapes for if there was ankylosis of the stapes no improvement could be expected. In his opinion a carefully performed radical operation increased the hearing for a considerable time. Naturally, the hearing would decrease with advancing years and as the stapes becomes more fixed, but this had nothing to do with the radical operation. There had been no relapses in his small series of cases and the tubes had been sealed. Only time could tell whether the operation would be of any great benefit.

(Dr. Pierce then showed a series of lantern slides illustrating the various steps of the operation.)

DISCUSSION

DR. ALFRED LEWY said he had seen Dr. Pierce perform his operation, and there appeared to be nothing technically difficult about it. Dr. Pierce had very ingeniously developed a method of applying the well known pedicle graft for the closure of the Eustachian tube, and it promised well. The one unsuccessful case mentioned by Dr. Pierce he had seen. The boy was a tubercular subject and had recently been operated by himself for a large subperiosteal abscess, at which time the entire mastoid process was found to be occupied by a cholesteatoma, which was removed, but no plastic was done on account of the condition of the soft tissues. At the secondary operation Dr. Pierce undertook the pedicle flap operation but the stitches all sloughed. It was altogether an unfavorable case for this operation.

The only thing Dr. Lewy could think of that would keep Dr. Pierce's operation from universal adoption in properly selected cases would be for Dr. Bárány's operation, treating the mastoid cavity and the tympanic cavity as separate entities, to prove successful.

DR. GEORGE E. SHAMBAUGH thought that of the numerous suggestions that have been offered for securing a permanent closure of the tube the one offered by Dr. Pierce seemed to assure the best chances of success. He thought it made little difference whether the tube remained open or closed after the radical mastoid, and believed one should always explain to the patient before undertaking the radical mastoid operation that this was not done because of the discharge alone, but because in connection with this discharge the examination had convinced one that there existed a dangerous focus of infection, a caries or a cholesteatoma, hidden away in the attic, aditus or antrum.

DR. SAMUEL SALINGER expressed his pleasure at having heard the paper and at having seen the pictures which made plain many refinements in the details which he had not understood before. A short time ago Dr. Wittmack published an operation very similar to that described by Dr. Pierce in which he stated that he had performed this operation on one hundred cases, in the majority of which he had obtained a splendid result. Dr. Salinger had tried the operation in two cases at the County Hospital, in both of which the flap had sloughed. He thought this was not due to the operation but to the operator, for he could see that several differences existed in the technic as they had performed the operation and that demonstrated by Dr. Pierce. In one case they did this operation on one side and the flap sloughed; a few weeks later they performed a radical mastoid on the other side and did the Bárány operation with very good results. They had done two subsequent operations by the Bárány method with excellent results. In all the cases they found an incomplete

pneumatization and a very shallow mastoid cavity, so all they had to take care of was the aditus and tympanic cavity. In both cases the posterior wound seemed to heal by granulation and the tympanic cavity derived its covering from the intact meatal covering. He thought in this type of mastoid (sclerosis with few or no cells) any plastic was unnecessary, for by leaving the membranous meatus intact the shallow mastoid cavity was shut off from the meatus, healing by granulation, while the epidermis grew in more rapidly to line the tympanic cavity and tubal opening.

DR. EDWIN MCGINNIS said that at the last meeting of the Clinical Congress of Surgeons, Dr. Smythe of Boston demonstrated a new radical mastoid procedure. He makes a flap of the posterior portion of the external canal. This could be used to sew into the Eustachian tube by the Pierce method. He had exhibited four or five cases; there was no sloughing of the flaps, and the results were excellent.

DR. ROBERT SONNENSCHNIG said he had had the privilege of seeing Dr. Pierce perform one of these operations and that it was a very beautiful performance. While it was true, as Dr. Shambaugh stated, that it was not absolutely essential to have a perfectly dry ear, it was a great desideratum, and if this or any other method would give a dry ear it would be very pleasant. Not only the operative skill which Dr. Pierce possessed but his very careful attention to the details of after-care probably accounted for his success.

DR. CHARLES H. LONG reported a successful closure of the tube by skin grafting according to the technic of E. Hamilton White of Montreal, which was published in the *Journal of Laryngology and Otology* of Edinburgh, Scotland.

On August 24, 1922, a radical mastoid operation was performed on a male patient fourteen years of age. On September 7th, or fourteen days after the radical operation, an exact cast of the bone cavity was made by pressing into it a piece of modeling compound. When this hardened the cast was removed from the wound and a skin graft taken from the arm was laid over it with the cut surface outward and it was then pushed back into position. Seven days later the cast was withdrawn through the retro-auricular opening. November 15, 1922, the Eustachian tube was found closed and the ear was dry. At no time had the patient experienced any pain or discomfort. Dr. Long thought further experience was needed before this simple procedure could be recommended as a result method for closure of the Eustachian tube, or for shortening the usual long drawn out after-treatment of post-operative mastoids.

DR. HARRY L. POLLOCK thought that so few of the radically operated ears discharged from the tube that it was not necessary to attempt to close the end at the time of the operation. A few weeks after the radical operation it was very simple to close the pharyngeal end and in those cases where the persistent discharge occurred they closed it up with little trouble in every case simply by pulling out the mucous membrane of the pharyngeal end and clamping it together. In practically every case the Eustachian tube closed following this and there was no further trouble from discharge in the mastoid cavity. They had never attempted the operation described by Dr. Pierce, but if it was so simple Dr. Pollock believed it should be done at the time of operation rather than four or five months later. He saw no reason why it should not be successful in every case.

DR. PIERCE (closing), said Dr. Shambaugh was not the one to be considered regarding the discharge—it was the patient and the patient regards a running ear after an operation a failure in the operation.

He disagreed with Dr. Pollock that these running ears occurred so infrequently that it was a matter of no importance as to the closure of the tube. The literature gave from 15 to 50 per cent of failures as to running ears after an operation.

It was true that Wittmack published an operation a little while before Dr. Pierce's was published, but the operations were different to the extent that Wittmack does not fix his flap as Dr. Pierce fixes his, in the mouth of the Eustachian tube, and Dr. Pierce thought this was perhaps the most important part of the technic.

Regarding the operation of Professor Bárány, that was probably done on cases which he would not operate upon at all; cases of arrested pneumatization with a slight discharge

from the ear did not require an operation and where a large cavity existed with a large cholesteatomatous mass this operation was not to be thought of and one did not have to have any experience with Bárány's operation to realize this. Schwartze, who inaugurated operations on the mastoid, treated the chronic cases in just about the way Professor Bárány does at present. He made no flap, but treated the wound from back of the ear and the failures in these cases were so numerous that the radical operation was devised to more frequently insure success. He thought all would agree that if one operation could accomplish what two would do it was better to do it in one.

DR. GEORGE W. BOOT said that as Dr. Bárány was not present to defend himself he thought some one of those who took his course should mention the fact that Professor Bárány stated definitely that he performed his operation in cases of cholesteatoma.

DR. PIERCE, replying to Dr. Boot, said he did not wish to assault Professor Bárány. He said, and repeated, that the operation as performed by Professor Bárány was, in his opinion, inapplicable to large cholesteatomatous growths in the mastoid.

DR. AUSTIN A. HAYDEN presented a paper entitled: "Fifth Year Oto-Laryngology in General Hospitals." (Preliminary Presentation).

ABSTRACT

The scope of this paper was limited to the consideration of oto-laryngology in the graduate, hospital or fifth year of medicine. Post-graduate teaching is entirely another matter with Phillips, Shambaugh and others have dealt with ably and thoroughly. The term "General Hospitals" was meant to include the typical average better grade institution of 100 beds or more with rotation interne service, the men serving successively for given periods of time in the Laboratory, Obstetrical, Medical and Surgical Departments. This excluded special hospitals, and those with *single* non-rotating house services, where a whole year is spent in one department, as well as those having a special eye, ear, nose and throat interne while the rest of the house staff rotates.

The teaching in diseases of the ear, nose and throat should properly come from the attending oto-laryngologists.

The fifth year requirement, inaugurated a little more than a decade ago and still largely in the formative period, had in reality created a new National American Medical School whose field is just above the *under-graduate* and just below any sort of *post-graduate* instruction or the years of practice that are to follow. It is an in-between period in which the student is no longer a student on the benches, nor is he yet a full fledged Doctor of Medicine. The student body numbered 2,529 last year. It would be considerably larger in 1922-23. The average age was somewhat over 27. The per capita investment had been variously estimated as between \$10,000 and \$20,000, or from \$20,000,000 to \$40,000,000 in all.

Dr. Hayden said that to present a complete survey of this whole subject would be manifestly impossible and entirely inadvisable, and after analyzing the actual oto-laryngological work done in a 166 bed hospital, with which he was familiar, he gave the following conclusions:

"1. Oto-laryngology forms a very considerable part of the work of the average general hospital. For that reason internes are entitled to a proportionate amount of training in this department.

"2. A curriculum carefully worked out by oto-laryngologists and followed by them in their own hospitals would equip the general practitioners of the future with a broader and more practical knowledge of the diseases of the ear, nose and throat.

"3. From these more systematically trained physicians undoubtedly adequate numbers would be attracted to this specialty after having spent a number of years in general practice or suitable post-graduate work.

"4. If advantage is not taken of this opportunity oto-laryngology will gradually but surely lose its identity as a specialty and be merged into general surgery or general practice.

"5. A standardized curriculum for systematic fifth year instruction in all departments of general hospitals might prove to be as long a step forward in the further development of modern medicine as was the standardization of the medical college itself. Oto-laryngology, if it will but lead the way, can render great and lasting service to organized medicine."

DISCUSSION

DR. GEORGE E. SHAMBAUGH considered the subject presented by Dr. Hayden as an extremely timely one. Dr. Shambaugh felt that the solution of the question as to what should be attempted in the general hospitals along the line of educating the internes in oto-laryngology was not difficult. The point should be kept clearly in mind that the fifth or hospital year should not be looked upon as a graduate year, but as a part of the undergraduate medical training and as intended to round out the clinical experience of the undergraduate student where the work in the previous years had, in a sense, fallen down. When planning the work for the fifth year in hospitals this fundamental fact should be kept in mind, that the object of undergraduate work in medical training is to prepare men to be general practitioners. Those who are most interested in medical education agree that the training for undergraduates in the various special fields should not include training in operative technic. He believed that the general surgeon had been slower to appreciate this fundamental fact in undergraduate medical training and that what is required as applied to the operations on the ear, nose and throat, applied in equal force to general surgery. The principles of either one of these subjects and the problems encountered in practice were proper subjects for introduction in the undergraduate curriculum, but operative courses and surgical clinics should be largely dispensed with. These should form an important part of graduate training for those who are going into special practice, whether this be oto-laryngology or general surgery.

Regarding the field of oto-laryngology Dr. Shambaugh felt that a great deal of harm is being done by efforts to teach the general medical student the technic of operations either in the college years or in the fifth year. One should always bear in mind that it is a relatively simple matter to teach a man how to do an operation, but it is much more difficult to teach him to recognize when to do these operations. To train general practitioners in the technic of operations in oto-laryngology was only preparing men to increase the flood of unnecessary operations on the nose and throat and particularly upon the tonsils that has been flooding the country in recent years.

DR. JOHN MILTON DODSON found himself thoroughly in accord with Dr. Shambaugh about the limitations of the field

and agreed heartily with him that the interne year was not a graduate year at all. One of the reasons given for making it a requirement for graduation was to emphasize that very fact. He thought all would agree that no young man could safely be trusted to go into independent practice before having practiced for a considerable period under the immediate supervision of an older, more experienced man. The interne year was not new. For fifteen years the majority of students have sought to secure and serve internships. The few schools that have taken the step in the last five or six years to make it a requirement for graduation have done this in order to get the interne year under supervision of the faculty so that they may advise them and assist them in the selection of internships and thus get some control over the work they do in the hospitals and, secondly, supervise this phase of the hospital's work. The great purpose of the movement is to make the hospitals do better work, have better supervision over the internes and realize their responsibility to the internes.

Dr. Dodson thought Dr. Hayden's figures were rather excessive, that the average expenditure of medical students would be as high as he indicated, but they had invested enough.

As to the number of internes required, he thought Dr. Hayden's figures were far too small. The 482 hospitals that had been approved by the Council on Medical Education of the A. M. A., by no means represented the thousands of hospitals in the country that needed internes and were entitled to them. If all the hospitals which could provide reasonable opportunities were to demand internes in the right proportion—not over twenty to twenty-five beds to the interne, especially on the medical side—the number of internes would not be anywhere near sufficient. The acute problem was how to provide resident service for all of the hospitals, which are rapidly increasing in number.

Dr. Dodson thought the oto-laryngologist should do a certain amount of teaching, but he should bear in mind constantly that so far from attempting to teach the technic of operations to the young men he should be constantly emphasizing the fact that they should not attempt many of these operations. It was not a question of knowing *how* to operate, but *when* to operate. He believed no man should hold himself out to the public as fit to undertake these operations until he had been at least five years in general practice and then had spent at least one, preferably two, years under favorable conditions for special training in that particular line.

Dr. Dodson thought it was hard to see how the students could be taught much oto-laryngology in the fifth or hospital year. The hospital is first of all for the care of the sick and no other phase of its activity can be permitted for a moment to prejudice in any way the welfare of the patient. There was no question that for the patient's interest and for the comfort of the attending man the service of a young man for a whole year in one department, e. g., medicine, is much better than service in a department for only two or three months. The young man should follow a year by a year or a half year in surgery, learning the principles of surgery. Even in the rotating service Dr. Dodson could not see how anyone could teach much oto-laryngology unless the student was restricted entirely to that service, as he is at the County Hospital, for three months.

He believed the solution was in the very beginning of the organization of the interne year and thought the time was coming soon when hospital staffs must be organized into an intelligent teaching unit. He thought it should be possible to so arrange the work that an interne on the medical service would have an opportunity to learn all he needed to learn in oto-laryngology and ophthalmology while serving his year as a medical interne, and that the staffs of the several hospitals where internes go should be alert about this matter, should recognize and give study to the pedagogics of the interne year just as the faculty of the undergraduate school must do in order to get good results.

DR. J. HOLINGER thought that what an interne learned in a hospital was a personal question of the interne. Everybody liked to teach a boy who was eager to learn. For those that dodge the work, the colleges ought to give authority to the hospital staff to make them do their duty. He thought it advisable for the student to own his forehead mirror, ear

and nose specula, for he would use them and learn much by doing so.

DR. ROBERT SONNENSCHN said that in former years the men who were recognized as specialists were those who after leaving the hospital in which they had served an internship had taken a course in some special branch or had worked with a man doing such work on the living or cadaver before proclaiming themselves as specialists. In the last four or five years a great many of the younger men had specialized immediately upon leaving the hospital. If through the kindness of the men on the staff the internes could be taught the technic of the operations they may have to do if they expect to do country practice, or if they intend to take up a specialty, it was all very well, but on the other hand it was a question whether all the operations must be turned over to the internes, as is the case in many hospitals.

Dr. Sonnenschein believed that the only cure for this generalized operating by internes would be for the general hospitals that have a rotating service to have an agreement regarding the operating to be done by the internes. There would then be no advantage in going to any particular hospital merely in order to get plenty of operating, whether the man showed by his attention to duties that he deserved the operative work or not.

DR. EDWIN MCGINNIS said that he had worked out a scheme of having a hospital interne act somewhat as an assistant. He tried to teach these men how to use a local anesthetic and to anesthetize the throat properly so that they might become competent in examining patients and could handle the patient afterward, trying to teach them all the complications that might arise following an operation. He thought it was difficult to do much for the interne so far as the nose was concerned. In his experience with fifteen or sixteen internes not one of them had expressed their preference for oto-laryngology.

DR. L. W. DEAN (Iowa City, Iowa), said that of his five internes one had had a service in internal medicine, each of the others had had a rotary service. Each of the four internes who had had a rotary service had operated on many cases for the removal of tonsils. They felt that they could do the work well when, as a matter of fact, they were not capable of properly performing the operation. Dr. Dean believed that the performance of operative work by internes before they had been properly prepared for this work could only be prevented by the education of the members of the clinical staffs of the hospitals or perhaps by bringing pressure to bear upon the hospitals to see that these things were done correctly.

DR. GEORGE W. BOOT thought it was impossible to take any one part of the body and separate it from the rest and that one could not take any part of a hospital and separate it from the other. According to Dr. Hayden's figures about one-fourth of the hospital cases belonged to the ear, nose and throat department and the interne taking a general service should be entitled to some knowledge of ear, nose and throat work. Another feature was the limiting of the ear, nose and throat work to specialists. He thought that all medical work was not limited to internists or all surgical work to surgeons.

DR. NORVAL H. PIERCE expressed the opinion that the interne body was getting very cocky. They have quite well founded ideas and among them is the idea that they shall take out tonsils. Dr. Pierce thought that the legitimate indications for a tonsillectomy could be easily acquired. The mere removal of the tonsils did not constitute the main part of the job; it was laying the foundation in an individual of a certain moral standard, and that was a very difficult thing. It was making a man who has a large family and very little money, rather than break through that moral code, tell a patient who did not need to have his tonsils out, "No, you do not need to have them removed." He confessed that he was ashamed of his educational neglect of the internes in the hospitals he attended. There was no training of internes. He agreed with the statement of Dr. Dodson that the first requisite of the hospital was the care of the patient. Anything that came in conflict with that was wrong, but they must face the situation of education, not only of nose, throat and ear internes, but the whole interne body.

DR. JOHN MILTON DODSON agreed that the vital thing to teach any interne was the proper examination of the patient. One of the serious mistakes under the present system was the way patients were assigned. They hope soon to have every patient that comes to the dispensary go to the department of general medicine first for group study and diagnosis, as they do in the Massachusetts General Hospital. The interne should not be permitted to report the examination of any case until he had examined the nose, the tonsils, the ear and every other part of the body.

As to the cockiness of the internes, Dr. Dodson thought that was a perfectly obvious result of the demand exceeding the supply and that the only way to overcome it was to make the fifth year a part of graduation.

DR. AUSTIN A. HAYDEN (closing) thought Dr. Dodson had misunderstood him as meaning to develop specialists out of the general hospital service. He believed men who were not working in a general open and closed staff hospital did not realize the limitations of such a hospital. There were only two hospitals in Chicago that had the single non-rotation service, the Presbyterian and St. Luke's. These men are going out with an unlimited license to practice any sort of medicine, that their patients bring to them to take care of. He believed the first thing the average young man would be called upon to do would be to take care of an obstetrical case. They could do this much better for the patient if they had been properly trained in obstetrics by an efficient obstetrician. By the same token, he believed that any interne was soon going to take out some tonsils and felt that if the interne had been as well grounded in the hospital as time would permit by such men as constitute the membership of the Chicago Laryngological Society he would do much less harm to the patients who came to him in private practice.

In his opinion the day of the old family practitioner has entirely passed, or at least he had been supplanted by a new variety of medical man.

CHICAGO OPHTHALMOLOGICAL SOCIETY Clinical Meeting December 11, 1922, at the Cook County Hospital.

Dr. Francis F. Lane, President.

Medical Ophthalmoscopy.

Dr. George F. Suker exhibited a series of over forty cases which showed pathology of the retina, choroid and nerve-head. This presentation gave evidence of the possibilities open for intensive study of the ocular complications of primarily medical cases, if systematically taken advantage of in a large general hospital.

Adenoma of Hypophysis.

Dr. B. W. Lowry reported a case of hypophyseal adenoma in a negro and exhibited the brain. The patient was a male, 29 years old, first seen, October 14, 1922. He complained of blurred vision in the left eye, double vision, headaches and nocturia of about ten months' duration. The blurred vision was the first symptom noticed. Vertigo sometimes accompanied the headache. The latter at these times increased in severity. The patient stated that he had a ravenous appetite and had gained thirty or forty pounds in the last three years. Nocturia had recently become a definite complaint, the patient getting up three or four times every night.

The patient was extremely well developed and well nourished, unusually intelligent and apparently not acutely ill. His temperature was 98° F., pulse 64, respiration 20. The blood pressure was 120-80, pulse pressure 40. General physical and

neurological examination was essentially negative. There were no abnormalities of the genitalia, no change in distribution of hair, no paralyses, no abnormal reflexes and no atrophies.

Right vision was 20/200; left 10/200. Fundus examination at the time of entrance was entirely negative. A perimetric chart was made and a typical bitemporal hemianopsia was found, with no scotomata in the remaining visual fields. A positive Wernicke pupil reaction was demonstrated. No exophthalmos was present. The sugar tolerance on a fasting stomach was found to be between 300 and 400 gms. The functional tests on the ear were essentially negative for localization. The blood and spinal fluid Wassermann reaction was negative. X-ray examination of the sella turcica was negative.

The headaches became almost unbearable despite massive doses of potassium iodid. There was vomiting of the projectile type. A slight edema on the nasal halves of both discs was first noted November 3rd. The patient became unusually confused and stupid. The pulse rate varied from 60 to 80, the temperature was persistently sub-normal.

A right sided subtemporal decompression was performed on November 11th. Marked increase in intracranial pressure was demonstrated. The compression symptoms were somewhat relieved following operation but the patient became gradually comatose and died on November 24th.

Postmortem examination was limited to the head. On opening the calvarium a large quantity of cerebrospinal fluid escaped. The brain was under marked tension, the convolutions being definitely flattened. The sella turcica was unusually large, measuring about 5 cm. in depth by 3 cm. in width and the rim and clinoid processes were entirely destroyed. Occupying the region of the hypophysis was a large, soft, hemorrhagic tumor mass, about 6 cm. long by 3 cm. broad. Microscopically this was found to be a typical hypophyseal adenoma, containing chiefly basophilic cells of anterior lobe origin, thin poorly developed blood spaces and considerable hemorrhage, both old and recent.

The case was considered of unusual interest because it presented hypophyseal tumor with marked neighborhood manifestations and inconspicuous glandular symptoms. There was a typical bitemporal hemianopsia with macular involvement, indicating a lesion of the posterior chiasm; marked diminution of visual acuity; a perfectly normal nerve head, with only very late development of papilledema, and a positive Wernicke sign localizing the lesion anterior to the primary optic ganglia. The usual early disc pallor was not demonstrated in this case. The symptoms of disturbed gland function were: A persistently subnormal temperature; normal blood pressure which, considering the degree of increased intracranial pressure might be considered low; a marked increase in body weight; a very high sugar tolerance and polyuria.

DISCUSSION

DR. JULIUS GRINKER said, the case showed a typical hypophyseal tumor with the clinical symptoms. One negative symptom was the absence of atrophy of the optic nerve; the fundus was reported to have been perfectly normal in appearance, and vision was not markedly affected for bitemporal hemianopsia. This reminded him of a case of acromegaly which he studied for a good many years. He presented the brain at a meeting of the Chicago Neurological Society, and found a condition which explained the appearance of a normal fundus and the absence of the restricted field of vision. The hypophyseal tumors were capable of gradually expanding the chiasm, in such a way that almost a spider web was left; and as long as anything was left of the chiasm the vision might remain normal, and the appearance of the disc show nothing unusual. He thought this might explain the pupillary findings in the present case. In his own case he preserved the chiasm and it looked like a very fine network. He thought this was the only explanation of Dr. Lowry's case and asked him if he saw the chiasm postmortem.

DR. LOWRY replied that there was so much hemorrhage around the tumor that it was impossible to see the chiasm.

DR. GRINKER thought the case was very classical, except for this, and he inquired whether there were symptoms of acromegaly or abnormal growth of any kind. Hypophyseal tumors of any duration gave symptoms of this disease.

DR. GEORGE F. SUKER said the patient was studied carefully while he was in the ward, and they concluded to do a decompression to save what vision there was. The effect of the decompression was good, but the tumor was inoperable. The size of the tumor should have given better pictures of the sella turcica upon X-ray examination. They made a diagnosis of pituitary tumor, but the X-ray gave no evidence that would warrant anything but a subtemporal decompression. He believed that the conception of what was an enlarged sella turcica was as yet an open question. The patient might move slightly and change the picture because of the fore-shortening, and he believed this was what had happened in this case. The brain upon exposure was under marked pressure; but he did not advise anything except slitting the dura and fenestrating the pia and arachnoid, to prevent excessive hernia. This operation relieved the pressure, headache and the papilledema disappeared within seventy-two hours. This latter was quite marked on each nasal side of the discs and was the deciding factor in advising a subtemporal decompression.

DR. MICHAEL GOLDENBURG said he had noticed on several occasions, that although the sella turcica was not enlarged reference was made to erosion of the posterior clinoid processes. In reference to the skiagraphs, he had three cases in one family of primary atrophy, where the X-ray examination showed a bony wall extending from the anterior clinoid process to the posterior. Stereoplasts disclosed that the sella turcica was entirely normal. He asked if there was any erosion of the clinoid processes in the present case.

DR. M. H. COTTLE said they had examined the patient twice in the ear department and found a marked diminution of inward past pointing; which Barany and his followers considered as almost diagnostic of abscess of the frontal one-half of the cerebrum. The inward past pointing consisted of having the right arm past point out, but the left arm would not past point in; and if nystagmus was produced in the opposite direction the left arm would not past point inward as much as the right arm would past point outward.

DR. GRINKER said that the neurologists, who depended so much upon the X-ray for the diagnosis of hypophyseal tumor, took a great deal of stock in the erosion of the clinoid processes as indicative of disease, and giving indications of tumor. He considered this finding almost as valuable as enlargement.

DR. WILLIAM H. WILDER was impressed with the acuteness of the case, and thought this might account for the absence of any symptoms of acromegaly. Had the progress of the disease been slower, they might have developed. He had noticed in two or three cases of hypophyseal tumor, that before any characteristic contraction of the field of vision appeared on the temporal side, some involvement of the fibers of the macular region, causing impairment of the central color sense was found. There was a scotoma for red and green, much as in a neuritis of toxic origin. Later there gradu-

ally developed the characteristic contraction of the temporal fields, giving the typical bitemporal hemianopsia. While there was no reason for this to occur frequently, one could conceive of pressure in certain points of the chiasm that would give this phenomenon.

DR. LOWRY, in closing, agreed that the case was very unusual, and that there were very few signs of actual disturbance. The sugar tolerance was raised slightly; but there was no dryness of the skin, or other symptoms to make them think of hypophysis. The papilledema developed just before death.

FIBROSARCOMA OF ORBIT

DR. E. B. FINK presented a case of fibrosarcoma of the orbit. The patient was a white boy, aged 7 years, who was first seen on November 7, 1922, complaining of a rather rapidly growing tumor mass above and behind the right eye. The mother stated that this mass was first noticed several months before and there had been two previous attempts to remove it by operative procedure. Examination revealed a small, rounded, slightly, movable and nonfluctuating tumor mass at the upper, inner rim of the right orbit. The eye was proptosed considerably and there was a definite limitation of upward and inward movement. Vision in this eye was 20/35. Fundus examination was negative. Skiagrams of the orbit revealed no additional or subtraction bony shadows, and the para-nasal sinuses were clear.

The child was operated on under general anesthesia on November 13, 1922, and a solid, circumscribed, retrobulbar tumor (1 by 2 in.) was removed. It did not involve the periosteum and the bony surfaces of the orbit were smooth. Microscopic examination revealed a tumor composed chiefly of connective tissue, containing at one corner a considerable number of large oval cells with deeply staining nuclei, and many mitotic figures characteristic of fibrosarcoma. The incision was in the supraorbital line, extending down the bridge of the nose, and the tissues were deflected down to the bone. The tumor mass was dissected out, completely exposing the periosteum and bone. It was entirely outside of the optic nerve, only causing pressure on the eyeball because of its size.

The interesting feature of the case was the age of the patient, the nature of the primary tumor, and the excellent prognosis regarding metastases and the tendency to local recurrence. These fibrosarcomata were locally malignant and often appeared in very young individuals.

DR. ROBERTSON presented a case of retrobulbar neuritis following intravenous injection of salvarsan. The patient was a white male, aged 39 years, a laborer, who entered the Cook County Hospital complaining of poor vision. He stated that ten months previously he had received treatment for syphilis, receiving six intravenous injections of neosalvarsan in a period of two weeks. Three weeks later he noticed for the first time a haziness and dimness of visual acuity. He was not a heavy smoker and drank alcoholic beverages only at infrequent intervals.

Examination revealed R. V. 8/200; L. V. 20/65. This vision was not improved by glasses. The fundus was negative, except for a slight pallor of the nerve heads. Perimetric fields were taken and a bilateral

central scotoma was demonstrated for both red and green. A diagnosis of chronic retrobulbar neuritis, with early descending optic atrophy, was made; and the patient was put upon daily injections of 1/4 gr. pilocarpin and active purgation. On November 27, R. V. was 10/200; L. V. 20/50.

On December 8, R. V. 20/100; L. V. 20/30. On December 10, R. V. 10/100; L. V. 20/30. Perimeter chart, at presentation, showed a central scotoma for red only. The patient was presented because it was believed to be a case of chronic retrobulbar neuritis, following intravenous injections of neosalvarsan, and because of the rather marked improvement in visual acuity following a three weeks course of active sweating and purgation.

DISCUSSION

DR. GEORGE F. SUKER said this case appeared shortly after a notice was sent out by the U. S. Government regarding certain lots of neosalvarsan. This patient had an intensive course of treatment, possibly with the decomposed arsphenamin, which was very toxic when old and the arsenic content was very strong.

This recalled four or five cases he saw during the war, while stationed at Camp Custer, with a typical arsenical poisoning of the lateral ventricles and the pons. They gave the symptoms of hemiplegia. One of the patients was brought into the hospital after he had fallen off the door step of the barracks, and a decompression was done for a supposed cranial fracture and dural hemorrhage. Postmortem examination of the brain showed a typical picture of arsenical poisoning. Shortly afterward he had three other cases, following intensive courses of neosalvarsan, and these also gave the same post-mortem picture of the brain as the first one.

He believed the man presented had received treatment with decomposed neoarsphenamin and that the retrobulbar neuritis was the result of that medication. The government had cautioned against the use of this drug.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otological Society was held at the Hotel Sherman, Monday evening, January 8, 1923, at 8:00 p. m.

The President, Dr. Charles H. Long, in the chair. Presentation of Patients and Specimens:

DR. CHARLES H. LONG exhibited a patient with harelip and cleft palate.

The patient was a Norwegian man, aged 34 years, who was born with a cleft palate and hairlip. He had had nasal obstruction since birth. The family history was negative. He was one of seven children, three of whom were dead.

The point of interest was the large amount of lymphatic tissue which could be seen in the nasopharynx and nose and the advisability of doing any operation. He had been operated upon for hairlip when a baby. His mentality was that of a boy of fifteen but was said to be improving. Dr. Earl Thomas, assistant to Dr. T. W. Brophy, had examined him and expressed the opinion that no operation would be of value at this time. He believed that such apparatus as a dentist could manufacture would do all that could be accomplished.

DISCUSSION

DR. ELMER KENYON stated that Gutzmann had studied cases with adenoids in connection with cleft palate and had decided that unless there was an extremely good reason for removing the adenoids they should be left alone. If they are removed the voice is invariably made worse, as the adenoids serve as a sort of obturator. Gutzmann thought not much could be said in favor of removing the adenoids, except in cases where breathing space was necessary, when a partial adenoidectomy was the proper procedure. He argued that in the cleft palate class of cases, in which the middle ear was always prone to infection even with a free nasopharynx, there was not the same imperative reason as exists in cases with a normal palate for removing the adenoids to protect the ear.

DR. LONG (closing) stated that Dr. Sher expected to remove enough of the tissue to give the patient nasal breathing space and that he would then turn him over to the dentist to have the proper apparatus constructed.

DR. GEORGE W. BOOT presented some foreign bodies which had been removed from the bronchi and esophagus of various patients. The first was a piece of bone which had been impacted in the throat of a Scotchman who had swallowed it while eating mutton broth. Great difficulty was experienced in dislodging it.

The second specimen was a peanut which a colored boy of three had inhaled and which had been removed from the right bronchus.

The third specimen was another peanut which had been removed from the right bronchus of a boy of three. This was the only patient Dr. Boot had ever had who had died from bronchoscopy. The peanut, which was too large to be removed through the tube, broke just as it was passing the vocal cords and before he could secure another hold on it the boy choked to death.

The fourth specimen was a tack which had been imbedded in the left bronchus of a baby eleven months old for six weeks.

The fifth was a black-headed steel pin, 4 cm. long which had been inhaled and had shifted to various places. The first picture showed it in the right bronchus. The following day x-ray examination showed the pin in the trachea and the next day in the right bronchus. Every time the boy coughed the pin changed position. When extraction was finally attempted the pin was in the trachea and the boy coughed it out as soon as the bronchoscope was introduced between the vocal cords.

DR. GEORGE E. SHAMBAUGH addressed the Society on "The Structure and Function of the Crista Ampullaris," with lantern slide demonstration.

(Author's abstract).

Dr. Shambaugh pointed out that an accurate knowledge of the anatomical details in the semicircular canals and vestibule were essential before attempting to analyze the reactions which result in the stimulation of the end-organs. Such a knowledge is all the more essential because these reactions are physical and should, therefore, permit of analysis better than can be done for most end-organs.

Three hypotheses have been advanced to account for the phenomena associated with the rotation experiment. First, the Breuer hypothesis, namely, that on starting and on stopping rotation there is but a momentary impulse given to the endolymph in the semicircular canals. This momentary impulse displaces the cupola. This displacement of the cupola results in the stimulation of the hair cells of the crista which stimulation continues until the cupola is gradually drawn back into position. During this period the patient experiences the sensation of being rotated and there develops a nystagmus with the quick component in the direction of rotation. Second, the

Bárány hypothesis, which is that a momentary impulse to the endolymph arises on starting and stopping rotation. This momentary impulse sets off stored centers of energy which continue to act until exhausted. During all this period the patient experiences the sensation of being rotated and there is a nystagmus. The *third hypothesis* is that the duration of the phenomena resulting from stimulation of the end-organs lasts only so long as this stimulation lasts and the duration of the stimulation is dependent upon the duration of the pressure of endolymph resulting from inertia both on starting and on stopping rotation.

Dr. Shambaugh contends that the hypothesis which best accounts for the phenomena is the one that should be accepted. The only hypothesis that explains in a plausible manner the phenomena of rotation referred to above, also the phenomena in the fistula cases and the caloric reactions, is that the duration of the reaction is the same as the duration of the peripheral stimulation which is the same as the duration of the endolymph pressure or movement.

He next discussed the question of labyrinth tonus and explained why it is that the tonus impulses from the right ear produced movements toward the left and those of the left ear toward the right. He explained how certain phenomena in the rotation experiment are accounted for as phenomena of fatigue. These were that the greatest duration of nystagmus after rotation follows approximately ten rotations and that either a longer or shorter period of rotation gives a lesser response; also the phenomena of the after-after-nystagmus described by Bárány and the observation that when a patient is being rotated steadily in one direction the moment the nystagmus produced during rotation disappears there develops for a few moments a nystagmus in the opposite direction although there has been no retardation in the speed of rotation.

DISCUSSION

DR. J. HOLINGER expressed his thanks to Dr. Shambaugh for his clear presentation of the function of the crista ampullaris and said the intention of physiology has been from the beginning to reduce the complicated functions of the body to simple laws of physics and chemistry. If we did not succeed in this it was either because we did not understand the functions, or because we did not know the laws of physics and chemistry which governed these functions: Therefore recourse was often had to complicated and undigestible theories. He thought very few people could understand Helmholtz's book. The mathematicians say it contains too much physics and physicists say that it contains too much mathematics. Siebenmann and others have succeeded in explaining to a great extent the function of the cochlea. Bárány, Jones, Shambaugh, Ewald and others did the same for the vestibulum and semicircular canals.

DR. ALFRED LEWY said that Dr. Shambaugh's work and ideas had greatly strengthened the arguments in favor of endolymph flow as the causative factor in labyrinthine nystagmus and allied phenomena, but his theory that the duration of the induced phenomena was dependent upon the duration of endolymph flow failed to explain several things. According to Bárány, after-nystagmus may last anywhere from three or four to sixty seconds or more in normal individuals. It hardly seemed possible that the anatomic physical conditions that are the causative factors of endolymph flow can vary so widely in normal human beings. There certainly must be a powerful neurological element. One must consider the varying sensitivity and interaction of nerve cells. Especially unexplained is the fact that in the same individual, under the

same stimulation, on different days, or even on the same day, with the question of fatigue eliminated, the duration of nystagmus and especially of vertigo and nausea may vary. Nor could it be explained in all cases by the development of inhibitory impulses, as seen in trained aviators and whirling dervishes. As a working hypothesis Dr. Lewy thought Dr. Shambaugh had presented the case very strongly, but one must keep in mind that other elements, largely neurological, beside end-organ stimulation by endolymph movement, enter into it.

Dr. Lewy also wished Dr. Shambaugh to tell something of muscle tonus in people with congenital absence of, or destruction of both labyrinths.

DR. ROBERT SONNENSCHN said that aside from the fact that Dr. Shambaugh always seemed to have a very lucid way of demonstrating anything, a very important fact to be remembered was that it was the careful study of the anatomy of a structure that would enable one to understand the physiology. He remembered the wonderful specimens produced by Dr. Shambaugh when he first did work out at the University of Chicago, many of which had been exhibited at the Congress of Budapest, where they had been much admired and complimented.

One point not mentioned in this discussion but which he had heard Dr. Shambaugh speak of several times, particularly when in Washington at the meeting of the American Otological Association, was the point against the Helmholtz hasilar membrane resonance theory, as regards the large blood vessel which lies just below this membrane. Since it is known in physics that a resonator attuned to a certain pitch always acts for that tone one can assume that the basilar membrane, if it is the resonator, cannot act uniformly since the large blood vessel situated just beneath it would vary in its lumen according to the amount of blood supply running through it, and the force of the heart beat.

Dr. Sonnenschein again emphasized the fact that the important thing in addition to those mentioned was that a careful study of the anatomy of any part was essential to the study of the histology thereof, and thereby often its physiology.

DR. GEORGE W. BOOT thought that without any doubt tonus originates in the labyrinth but he believed there was considerable doubt that it originated solely in the crista. There are three different places where it may originate, the crista the macula and the organ of Corti. These three end-organs are stimulated by different motions. The organ of Corti by stimulation of vibrations in the endolymph, the crista by currents in the endolymph and the macula by movements of the crystals in the otolithic membrane due to their inertia. If the crista is stimulated by pressure one should be able to produce nystagmus if the canal is blocked off distal to the crista and the patient rotated, for pressure would be produced on the cupola even though the endolymph could not move. He thought this experiment had never been tried. If the tonus was the result of the to and fro movement of the blood in the vessel, the question was the same as in the eyeball. In the eye one could watch the vessels with the ophthalmoscope and see the vessels under considerable magnification. There is absolutely no movement in the vessels with circulation under normal conditions. He thought the theory that there is to and fro movement of the endolymph and perilymph with the pulse was not tenable for if it occurs one should be able to see it in the eyes where one can see and study the circulation under magnification in an organ less rigid than the labyrinth and where to and from motion should occur more easily.

Another point was in relation to the duration of the nystagmus. Dr. Shambaugh thought the current was kept up longer because of endolymph in the utricle. Dr. Boot thought this theory was not plausible. If a vessel, a pail, is filled with water and a hole made in the bottom of the pail the water comes out with a force that has no connection with the amount of water in the vessel but solely with the height of the water.

If a vessel shaped like a semicircular canal and utricle be filled with liquid and rotated so as to set up a current in the canal and then stopped suddenly, there will be no variation in the amount of current set up in the canal with different sizes of vessels.

DR. FRANK J. NOVAK asked whether the distribution

of the nerve fibers in the crista ampullaris had been determined histologically and what the histologic structure of the cupola was. Also what was the effect, if any, of vascular hypertension and various heart lesions, such as arctic regurgitation, or labyrinthine tonus.

DR. GEORGE E. SHAMBAUGH (closing) said that any one of the questions asked opened up a field for possible endless discussion pro and con. He believed that the explanation which accounts most readily for the phenomena was the nearest to the proper solution. In order to get anywhere with such problems it is most important to keep our explanations as simple as possible, for only in this way can progress be made.

Dr. Lewy's questions were very pertinent and Dr. Shambaugh was sure that the duration of the nystagmus as compared with the duration of the endolymph current is sometimes modified by outside nervous conditions. This is especially true in pathological conditions.

Regarding the disturbance caused by destruction of tonus, the sudden destruction of one ear produces a profound disturbance of equilibrium; a nystagmus develops with the slow component to the diseased side. This disturbance quickly disappears. What happens? First, we must remember that tonus to skeletal muscles is not all of labyrinthine origin. Extra labyrinth tonus is an important factor. All of these tonus impulses pass through Deiter's nucleus. When the labyrinth is destroyed there is a complete blotting out not only of the labyrinth tonus on this side, but by what is spoken of as diachisis, there is a temporary depression of the extra-labyrinth tonus; within a short time this depression from diachisis disappears and there is left only the loss of the labyrinth tonus. This is adjusted in one of two ways, probably both acting together. In the first place it seems likely that there may be an increase in the extra-labyrinth tonus to take the place of the impulses to the destroyed ear and restore balance. On the other hand, there is ample evidence that the tonus from the remaining ear, which supplies impulses to both groups of muscles, those causing movements toward the opposite side and those causing movements toward the same side with the stronger impulses to those muscles causing movements toward the opposite side,—after one ear has been destroyed for some time a readjustment takes place so that equal tonal impulses emanate to both groups of muscles from the normal ear. This is evidenced by the fact that in such cases a rotation toward the normal side produces a nystagmus lasting just as long as the rotation toward the opposite side. An interesting sidelight is thrown on these cases by observing what takes place when there is a sudden loss of one ear in cases where in earlier years there had been a complete destruction of the opposite ear. Dr. Shambaugh has had an opportunity of observing but two such cases. In neither one did there occur that disturbance of equilibrium, vertigo or nystagmus, which accompanies invariably the sudden loss of one ear when the opposite ear is normal.

Dr. Shambaugh did not understand just what Dr. Boot had in mind in his objection to the statement that in the rotation experiment the movement of the endolymph in the semicircular canals was prolonged by the pressure exerted from the fluid in the much larger utricle which is also affected by the rotation but lacks much of the friction from the walls which retards the flow in the canal itself. This conclusion regarding the effects of the fluid in the utricle as well as in the perilympathic space of the vestibule Dr. Shambaugh considered in the nature of a self-evident fact and one that needed no argument to prove.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otolological Society was held at the Hotel Sherman, Monday evening, February 5, 1923.

The President, Dr. C. H. Long, in the Chair.

ABSTRACT OF PROCEEDINGS

Presentation of Cases:

DR. SAMUEL SALINGER presented a boy

with a vitreous abscess following lateral sinus thrombosis. The sinus phlebitis developed about two weeks after the onset of a suppurative otitis media with fairly typical symptoms, except that the chills were absent. The day before operation he began to develop pains in the ankles and other joints. At operation they found a mastoid abscess, a large extradural abscess and a lateral sinus thrombosis with pus within the lumen of the vein. The abscess was cleaned out and the internal jugular ligated. (Cultures from the mastoid as well as the thrombus showed chiefly Staphylococci). Four days later the boy developed a swelling of the right lids, both becoming very edematous and the conjunctive greatly injected. The humors were clouded so that the fundus could not be seen. It was thought that the boy was developing a cavernous sinus thrombosis, but because there were no symptoms of involvement of the extraocular muscles and in the absence of exophthalmos it seemed that this might be an error. In a few days the swelling diminished, the interior chamber cleared up and one could distinguish a vitreous abscess. At the time of presentation the eye ball was somewhat shrunken and the yellow accumulation within could be clearly seen through the cornea and unimpaired lens.

The boy has practically no light perception and the doctor has been informed that the sight is permanently lost but there is no metastatic danger from this source.

DISCUSSION

DR. HARRY WOODRUFF, Joliet, said that he never had seen an abscess of the vitreous following lateral sinus thrombosis but saw no reason why it should not occur. He thought the patient was fortunate not to develop an abscess in both eyes, as occasionally happens following certain infectious diseases. The fact that the pus cells in the circulation more often locate in the joints and do not affect the eyes he thought showed that they were well protected against this invasion. In his opinion if the eye atrophied it should be removed.

DR. BURTON HASELTINE was much interested in the case because he saw an apparently identical one ten or twelve years ago. In that case there was a lateral sinus thrombosis and operation was advised. The patient was seen the following day by Dr. Ballenger, who advised the same operation although he did not know that Dr. Haseltine had previously seen the case. The patient did not die and Dr. Haseltine saw her five years later. There had been no operation of any kind but the patient had had numerous metastatic abscesses, some in the buttocks and various places throughout the body. When seen five years later the eye was completely atrophied but the patient had made a partial recovery from the arthritic condition.

DR. SALINGER (closing) said that this boy had two other metastases, one on the rim of the left auricle and the other on the scalp in the left occipital region. The operation disclosed an enormous amount of pathology. He was urged to operate again when the eye condition appeared but felt he was fortunate in not having followed that advice.

Scientific Program:

DR. SAMUEL J. PEARLMAN and BENJAMIN J. GRICHTER presented a thesis entitled: "Lymphoid Tissue of the Tonsillar Fossae following Tonsillectomy."

The essayist reviewed the embryological develop-

ment of the tonsils and the surrounding structures and the various theories concerning the recurrence of lymphoid tissue following tonsillectomy.

The tissue studied in their work was obtained from children ranging from four to fourteen years of age who were seen at the Michael Reese Tonsil and Adenoid Clinic. The tonsils were of varying degrees of hyperplasia but there was no evidence of recent acute inflammation. They were removed under general anesthesia with the Beck-Mueller tonsillotome, which they were convinced bore no relation to the recurrences. The excised tonsil was first carefully examined and the presence of the intact capsule noted before a specimen was taken from its fossa. Specimens were not taken unless the tonsil was considered successfully removed in one maneuver. Tissue was removed by means of a small punch forceps as near as possible to the anterior pillar where it forms an arch with the posterior pillar. No tissue was removed from the region of the lingual tonsil.

One hundred operated fossae were studied. Serial sections were made and every tenth section was analyzed. In 15 per cent. lymphoid tissue with distinct follicle formation was observed. In some cases shallow crypt formation was present. In ten additional specimens lymphoid tissue of a diffuse variety was seen, much of it microscopic in character. In their series 25 per cent of operated tonsillar cavities exhibited lymphoid tissue. They believed this a minimum figure for at times only one piece of tissue was removed. Study of serial sections in all instances would probably have shown lymphoid tissue in a larger percentage.

They did not conclude that this extratonsillar but intracapsular lymphoid tissue is always responsible for the recurrences. However, it seems to be the only one from which such recurrences can take place, and best explains the reformation of lymphoid masses high up in the fossa which occur now and then in spite of skilled operators and the best possible technic. Demonstrable recurrence may not be present in all instances in which lymphoid tissue can be shown to be microscopically present, since factors as yet unknown and indefinable may determine recurrence in one instance and prevent it in another.

DISCUSSION

DR. JOSEPH C. BECK thought one should be careful about diagnosing a recurrence of tissue after a thorough tonsillectomy. If the essayists had stated that after operation the cavity was thoroughly inspected and those follicles which Tilley's picture showed were there macroscopically it might be taken seriously, but if such a well worked up thesis were allowed to go by without some discussion it would give rise to claims of curing tonsil stumps with x-ray therapy. He thought some of those present would recall that at a very large gathering of the American Radiological Society work on the tonsil stumps done by Dr. French and others in the East was shown to prove that operations for the removal of tonsils were useless because they recur. Several years ago Dr. Good read a paper before the Society showing that following tonsillectomy there was retrotonsillar tissue. In Dr. Beck's opinion many of these follicles were the remains of tonsils, whether the operation was done by ring, dissection or any other method.

DR. ROBERT SONNENSCHNIG thought that in many cases of complete tonsillectomy, so far as the eye could see,

where the tonsil fossa had been inspected by pulling back the anterior pillar and where the fossa seemed as clean and as smooth as possible, weeks or months later one could see small round glistening masses similar to those seen on the posterior wall of the pharynx. In some such cases as those described by the essayists he had seen the fossa immediately after operation, with the pillars retracted and to the naked eye there was no sign of anything left. Then with a punch forceps these pieces of tissue were removed and examined microscopically and the conditions described were found.

DR. L. W. DEAN, Iowa City, Iowa, said that he felt that when tonsils were removed because they were known to be a focus of infection, the plica triangularis should be completely removed with the tonsil. In children with diseased tonsils without apparent systemic infection, an attempt should be made to save the plica and get a better cosmetic and functional result so far as the throat is concerned.

DR. CHARLES ROBERTSON recalled the case of a boy, aged twelve years, who came into his clinic with immense tonsils and adenoids. He performed complete enucleation of the tonsils and complete ablation of the adenoids. In three weeks the boy returned and presented the appearance of an immense tonsil on either side with a large adenoid in the nasopharynx which was fully as large as the original one. He was again operated upon and the masses removed so completely that one could see the fibers of the constrictor muscles. In about three weeks the patient returned with exactly the same condition, the masses were removed a third time and following that removal there was no recurrence but there was a supernumerary tonsil behind each pillar, a beginning tonsil just behind the uvula.

Dr. Robertson thought that in these cases it made little difference how thoroughly and completely the tonsils were removed as some of the growths recur, and recur in different degrees in different patients. In his opinion there is a certain condition in which lymphoid tissue and granulation tissue piles up. One case is exuberant and the other anemic. He had seen in some cases an exuberant hypertrophy in two or three weeks which eventually shrunk, leaving a nice smooth cavity.

He had noticed that in particular cases, for instance in people who were suffering with tuberculosis, if they were operated upon there would be an exuberant granulation tissue pushing up into the tonsillar fossa or some place else. He had seen many such cases. No one had ever studied the matter to determine whether there was anything in the blood that had to do with the piling up of this tissue and Dr. Robertson thought this offered a field of investigation that would be productive of good results.

DR. EDWIN MCGINNIS thought this was not a post-operative recurrence of the tonsillar tissue but pieces of lymphatic tissue which were clipped out of the spaces behind the tonsils. He could confirm these findings in some work that he had done. He did not use the Beck ring because he felt that it had a tendency to slip and one might have a fringe of tonsillar tissue left around the wound. In the Sluder operation one often finds the upper part of the tonsil slipping out of the fenestrum and in enucleating the tonsil this is frequently left behind.

He believed all would agree that in the last few years there had been fewer recurrences because better work was being done. On removing tonsils under local anesthesia in dissecting back over the top one will frequently find a little tissue that slips away from the capsule and if these pieces are snipped off they prove to be lymphoid tissue.

DR. GEORGE L. RICHARDS, Fall River, Mass., agreed with Dr. Beck that with either the Sluder or any other type of operation it was easy to remove the tonsil and after passing an instrument all around in the tonsillar fossa to conclude that one had performed a perfect tonsillectomy. On the other hand if with a dull retractor one elevated the anterior pillar so as to expose the whole supratonsillar space there would frequently be brought into view a small remnant of tonsillar tissue.

Some years ago when first doing tonsillectomies he made a good many microscopic sections and found that the muscle tissue extended into the capsule and that the gross appearance of this tissue on the capsule was by no means an indication,

as claimed by some men, of too extensive removal of the tonsil.

Thorough inspection of the entire tonsillar fossa by retraction of the pillars was the only safeguard against leaving behind unrecognized portions of tonsillar tissue.

DR. JOSEPH D. HEITGER, Louisville, Ky., said that in 1914 Grunwald published an article in the *Archiv für Laryngologie und Rhin*, dealing with the tissue Dr. Richards spoke of and apparently in the location from which the essayists said they had removed the tissue. Grunwald described five main types of tonsillar formation dependant upon the relation of the plica transversa to the upper and lower poles of the tonsil, and attributed the aberrant portion of the tonsil tissue, simply the portion snared off, to the development of the various plicae, but the percentage of these variations was very much lower than that found by the essayists.

DR. ELMER L. KENYON called attention to Dr. Richards' remark concerning muscle tissue being found in the capsule and said it was perhaps not commonly known that lymphatic tissue penetrates and forms islets in the capsule. He wondered whether it might not be found upon careful microscopic study that these islets completely penetrated the capsule, and thought this might explain why lymphatic tissue was found outside the capsule.

DR. SAMUEL J. PEARLMAN (closing), agreed that there was such a fold of tissue as Dr. Richards had described and it might be that in some instances some of it had been taken for study. Many cases did not present such findings. They took sections along the course of the anterior plica, not always up in the angle but always at least half way up, so that there was never any question of getting tissue around the lingual tonsil. He believed there was sufficient anatomical reason for finding this tissue even after apparently complete removal. Some of the tissue was microscopic and could not be seen with the naked eye. Occasionally they found very small follicles under the microscope; other tissue was diffuse in character. They stated in the paper that they did not know whether this lymphoid tissue would atrophy or hypertrophy and also state that anatomically, lymphoid tissue is often present following apparently complete removal of the tonsils. He did not think the tissue they examined was granulation tissue as it had none of the appearance of granulation tissue.

DR. GEORGE W. MACKENZIE, Philadelphia, Pa., presented a paper entitled: "Differential Diagnosis of Labyrinthitis Syphilitica Tarda and Neuro-labyrinthitis Syphilitica."

DR. MACKENZIE said that these two forms of syphilis in the hearing apparatus were entirely different affections occurring in widely different stages in the same general disease, and presenting different pathologic and clinical aspects and prognoses. Furthermore, they may be found eventually to require different forms of treatment, judging from the different results obtainable from the same form of treatment.

As early as 1907 and 1908, while studying the galvanic reaction in a large series of deaf mutes, it was observed that the majority of cases of deafness of the so-called nerve type presented a negative galvanic reaction of the eighth nerve. This was particularly true of those cases in which syphilis was the cause of the deafness. The reactivity of the vestibular branch of the eighth nerve was interpreted as negative when neither the positive nor the negative electrode applied to the external auditory canal, with a current strength of 20 m.a., or as much as the patient could tolerate, produced the slightest alteration in the existing nystagmus or caused a nystagmus to appear that did not exist before. A corroborative test was generally employed, that of opening and closing the current, using

first the cathode and then the anode with a current strength of 6 m.a.

The reactivity of the cochlear branch of the eighth nerve was tested after the same manner as the vestibular; however, the reaction when positive is different, being indicated by tinnitus. When no such reaction is obtainable with 20 m.a., with the cathode, it may be concluded that the nerve is nonreactive, or out of function, when it is superfluous to try the anodal reaction. Normally with 6 m.a. closing the cathodal current or opening the anodal produces a momentary, but distinct booming sound in the ear of the side to which the electrode is applied. When no such sound is produced it is accepted as evidence of the negative reactivity of the nerve.

Cases were found now and then among the syphilitic group which, in spite of complete deafness and nonreactability of the vestibular labyrinth to the turning and caloric tests, presented quite normal electrical reactions, which at first made them feel that perhaps Bárány was right in saying "that the galvanic test has no clinical value," but the explanation is simple enough now.

Neurolabyrinthitis syphilitica could better be labeled meningo-neurolabyrinthitis for if there were no meningitis there would be no neuritis. Acoustic nerve neuritis results from the extension of meningitis and compared with the other cranial nerves they find it the most common form of extension. Syphilitic acoustic nerve neuritis is found much oftener than syphilitic optic neuritis. Whether syphilitic meningitis ever occurs without some involvement of the eighth nerve is doubtful and the more pronounced the meningitis, the more pronounced the neuritis. The pathologic findings show that the meninges are involved to the supralative degree in the syphilitic infiltration, the eighth nerve to the comparative and the labyrinthine spaces barely positive in the average case.

In the second form of aural syphilis, labyrinthitis syphilitica tarda, the labyrinth is primarily involved and from every indication now available the nerve escapes entirely. This disorder occurs very late, usually in the hereditary form of syphilis, when it forms one of the symptoms of the complex known as Hutchinson's triad. It is rather an unusual manifestation of acquired syphilis. According to Hutchinson it never occurs before the fifth year, more often about the age of puberty and very rarely is seen after the thirtieth year. The writer has seen and reported one case occurring in a congenital syphilitic that had begun when the patient was forty-three years of age.

The clinical aspects of neurolabyrinthitis syphilitica and labyrinthitis syphilitica tarda differ sufficiently to permit of a ready differentiation. In neuritis of the eighth nerve, if the involvement is sufficient to impair the normal conducting power of the nerve, the impairment can be detected by the galvanic test already described. In cases of labyrinthitis with an intact nerve, the galvanic reaction remains normal. The writer has observed many cases of bilateral labyrinthitis syphilitica tarda with complete loss of vestibular

function to the turning and the caloric tests, manifest perfectly normal reactions to galvanism. Again, cases of complete bilateral deafness have been seen in which the galvanic reaction of the cochlear branch of the eighth nerve has remained normal. Other cases of bilateral loss of both the hearing and the vestibular functions from labyrinthitis tarda have been examined with perfectly normal galvanic reactions of both acoustic and vestibular branches of the eighth nerve; so from the standpoint of clinical diagnosis it is not at all difficult for the examiner to distinguish these two processes.

The experience of the writer prompted him to the decision that if he were allowed to select but one of two alternatives in arriving at a diagnosis of syphilis in doubtful cases he would unhesitatingly decide in favor of the functional tests in preference to the Wassermann. There are cases of only moderate impairment of function, vestibular or cochlear, and cases of beginning impairment, in which the galvanic and functional hearing tests have given advance information, thus permitting the institution of treatment earlier than might have been possible otherwise.

DISCUSSION

DR. GEORGE E. SHAMBAUGH expressed the sense of the Society in saying they were all grateful to Dr. Mackenzie for coming to Chicago and that they all appreciated very much his clear, lucid discussion of an interesting condition.

Dr. Shambaugh asked Dr. Mackenzie what he had to say about the use of arsphenamin in luetic cases. He could recall three cases where a patient afflicted with lues had developed labyrinthine symptoms with a more or less profound destruction of the hearing, where the administration of arsphenamin had been followed rather abruptly by a very marked exacerbation of the labyrinthine symptoms. The idea that improvement follows further use of the drug had not been borne out in these cases.

DR. J. GORDON WILSON thought there was no doubt that theoretically electrical stimulation is better than either caloric or rotation stimulation. His experience was that in man the results of electrical stimulation were divergent and not sufficiently sharp and reliable. He used three to four milliamperes and so avoided discomfort and pain. Within the last month he had occasion to observe in man in erect posture electrical stimulation of the vestibular mechanism with such a current and noted that while typical falling reaction was prominent and some vertigo was present there was very little or no nystagmus.

In hereditary cases it is recognized that the majority of them become apparent between the eleventh and seventeenth year, usually associated with syphilitic stigmata in other parts of the body. In the case of eighth nerve lesions in acquired cases of syphilis, one meets with three varieties: First, where both functions are affected; second, those in which disease falls chiefly on the acoustic apparatus; and third, those which involve chiefly the vestibular. The latter are frequently delayed in their onset, coming first into notice with a crisis.

Dr. Wilson had seen acute exacerbations after the use of hypodermic doses of salvarsan so he now prefers to use mercurial treatment, before using salvarsan. In hereditary cases treatment is unsatisfactory and in marked contrast to the results obtained in acquired cases.

DR. ALFRED LEWY said that some years ago he undertook to follow up some of Dr. Mackenzie's investigations of the auditory nerve with the galvanic current. He thought he had learned the proper technic, but found that the attempt became so painful to the patient before a diagnostic conclusion could be arrived at that the test had to be discontinued. He thought the tests probably necessitated a special type of apparatus in which the current strength could be absolutely controlled, and a milliamperemeter of greater accuracy and delicacy than the ordinary. The instrument which he used was attached to the street current, which constituted another

difficulty, as the current, at least in Chicago, varies suddenly according to the demands on it. His apparatus was not capable of controlling it to the fine degree of precision necessary to make this delicate test.

Dr. Lewy asked Dr. Mackenzie, in closing, to describe in detail the type of apparatus he used, and to state whether or not he used the street current or some type of battery that could be controlled more accurately.

DR. L. W. DEAN, Iowa City, Iowa, said he had been interested in the galvanic tests of Dr. Mackenzie for many years. He asked Dr. Mackenzie if the late manifestations of syphilis occurring in tubes were shown by his tests to be labyrinthitis of neurolabyrinthitis.

DR. JOSEPH D. HEITGER, Louisville, Ky., said that his experience was similar to that of Dr. Wilson. Finally he went down to Dr. Mackenzie and took up the work with him. Dr. Heitger had been looking for a large nystagmus, such as would be obtained in the use of the caloric or turning test, but it was pointed out that the real nystagmus to look for was just a tiny little jerk. He accordingly had an apparatus constructed under the direction of the electrician and Dr. Mackenzie which had a very delicate milliamperemeter, rheostat and polarity changer and with this a good deal of the pain mentioned by Dr. Lewy could be eliminated by getting the reaction at just the moment it should be obtained, having the electrodes, the patient's hands and tragus well soaked with salt solution. The greater resistance that is offered the more pronounced the pain.

Dr. R. Foster Moore in a recent book made the statement that interstitial keratitis could not be prevented by any form of treatment. This was a rather broad statement and coming from a man of Dr. Moore's experience in ophthalmology it must be accepted. It was a question with Dr. Heitger whether any of the tarda forms could be prevented even if detected early. In a series of studies of congenital syphilis in the Department of Pediatrics in the Barnes Hospital in St. Louis, including several hundreds of cases, it was of considerable note that only three cases of the classical Hutchinson triad were found.

Probably many of the cases slipped through the examiner's hands because a complete functional examination was not always made. Dr. Heitger thought that if both ears were tested thoroughly both with the functional tests of the cochlea and the other tests as given by Dr. Mackenzie all would have the same experience that he had had; namely, that it was a matter of learning a technic and controlling it carefully.

DR. NORVAL H. PIERCE said that Dr. Mackenzie had been advocating for years and years the use of the electric reaction in cases of labyrinthine trouble, but for some reason or other it had not become popular. The pain and uncertainty had undoubtedly been caused by an improper apparatus, but that the test was of great value he was convinced and believed the profession was to blame for not using this valuable means of diagnosis more frequently, especially if one could differentiate disease of the terminal apparatus and of the nerve itself. He did not believe that the profession was absolutely dependent upon this method for this differential diagnosis for the very therapeutic tests Dr. Mackenzie recommended would locate the syphilitic disease. If under mercury the patient recovered there was no doubt that the disease was meningitis; if not the disease was in the labyrinth.

DR. SAMUEL SALINGER asked if Dr. Mackenzie had ever tried applying the galvanic current direct to the drum membrane. Dr. Salinger had done this by means of a sponge placed directly in contact with the drum membrane and had found it possible to obtain a reaction with a current of not more than one or two milliamperes. He was convinced that if one had the proper milliamperemeter they could obtain the reaction with less pain than was possible by the other method and without having to pass the current through the enormous amount of tissue that is necessary when the electrode is applied to the tragus.

(To be continued)

CRAWFORD COUNTY

At the regular annual meeting of the Crawford County Medical Society held in the Robinson Hos-

pital, Robinson, Ill., Dec. 13, 1923, the following officers were elected for the year 1924:

Dr. O. G. Taylor, president, Palestine; Dr. L. R. Illycs, vice-president; Dr. L. P. Sloan, secretary and treasurer; censors: Drs. G. H. Henry, C. H. Voorheis and B. L. Price; delegate to the State meeting, Dr. L. P. Sloan; alternate delegate to the State meeting, Dr. C. E. Price; member legislative committee, Dr. B. L. Price; program committee, Drs. B. L. Price, H. N. Rafferty and L. P. Sloan.

Dr. A. L. Lowe gave a lengthy scientific discussion on diabetes mellitus with special regard to the dietetic management and the administration of insulin. The paper was freely discussed.

Dr. C. D. Ryerson of West York then presented a case of Addison's disease with the history. This case proved to be of great interest to the members of the society who were present.

A rising vote of thanks was extended Dr. Ryerson for his courtesy for presenting the case.

Owing to the lateness of the hour Dr. H. N. Rafferty declined to read his paper on "Pre-operative and Post-operative Care of Surgical Cases."

Adjournment was taken.

There were 14 members present.

L. P. Sloan,
Secretary-treasurer.

GREENE COUNTY

The Greene County Medical Society met at Roodhouse on Friday, Dec. 14, 1923, with fourteen members present. The business session was held at Hotel Roodhouse, where a splendid dinner was served by the management, to the credit of the Roodhouse doctors. In the absence of the president and vice-president, the secretary called the meeting to order and called for nomination of a chairman. Dr. H. W. Smith was unanimously elected chairman. The minutes of last meeting read and approved. The secretary read letters from Dr. Edward H. Oschner, president of the State Society, and letters from the director of the publicity committee of the State Society, deploring conditions in White Hall, that the physicians were working under unusual difficulties, with active opposition on the part of an ignorant individual who happens to be a newspaper editor.

Dr. Burns gave a talented and instructive talk on quarantine in contagious cases, and their management. Dr. W. H. Garrison presented some phases in the case of one individual quarantine, the son of the editor of our only local paper, that brought forth from him in his paper, the most vitriolic condemnation of all the physicians of this city, county and state having to do with quarantine regulations:

The following officers were elected for the ensuing year: Dr. W. C. Tunison, elect, assumes the office of president; Dr. W. H. Garrison was elected vice-president and president elect; W. T. Knox was elected Secretary-Treasurer; Dr. O. L. Edwards, was elected Censor; Dr. W. T. Knox was elected dele-

gate to the State convention and Dr. F. N. McLaren, alternate. Adjournment was taken to the Dreamland theatre for the scientific session, where a splendid illustrated address was delivered by Dr. Chas. F. Sherwin of St. Louis on "Some Common Fractures and Their Management." The slides illustrating same were good and the Hodgen Splints with new attachments as made use of by himself in the City Hospital in St. Louis. The whole subject was presented in a manner easily understood, and was enjoyed by all present. Dr. Hodgen, a famous surgeon of St. Louis during the Civil War, made a special study of fractures of the thigh and his splint is used by most physicians of the West, at the present time. Dr. Sherwin discussed fractures of the arm and bones above the ankle in a manner, that was interesting. The doctor possesses a thorough knowledge of his subject and the ability to present it in a way to make himself clearly understood.

W. T. Knox,
Secretary.

VERMILION COUNTY

Meeting called to order by President A. Merrill Miller. After reading of minutes and their adoption, several committees reported. Dr. F. A. Baumgart of Danville then read a practical paper on "Medical Economics." Dr. Baumgart called attention to the more satisfactory compensation now received for medical services, comparing them with fees in former years. He also stressed the more cordial relations now existing between medical men than that which obtained a dozen years ago. The high spot in his paper was that all these things had been brought about by more efficient organization and co-operation, without which there could be no substantial progress.

The following officers were elected for the following year: president, E. G. C. Williams; vice-president, Paul Fithian; secretary-treasurer, H. E. Koons; censor, A. Merrill Miller.

H. E. Koons, M. D.,
Sec.-Treas.

Marriages

Samuel Hancock, West Frankfort, Ill., to Miss Flo Young of Mount Vernon, recently.

William J. Hurley, to Miss Frances Anna Krueze, both of Chicago, Jan. 23.

Personals

Dr. B. Barker Beeson, Chicago, has been elected a corresponding member of the Danish Dermatological Society.

Dr. Hugh E. Cooper, Peoria, was elected county physician to succeed Dr. Frederick H. Maurer, resigned.

Dr. Albert E. Campbell has resigned as city superintendent of health of Springfield.

Dr. Beveridge H. Moore, Chicago, has been appointed attending orthopedic surgeon to the Children's Memorial Hospital.

Drs. William A. Pusey and Henry Bascom Thomas addressed the members of the Iowa and Illinois District Medical Association, January 10, at Davenport. The subjects were "Our Changing Knowledge of Eczema" and "Difficult Fractures," respectively.

Dr. Henry F. Helmholtz, head of the section of children's diseases, Mayo Clinic, Rochester, Minn., was the principal speaker at the annual meeting of the Infant Welfare Society of Chicago, January 16.

News Notes

—The sum of \$400,000 has been bequeathed to the Children's Memorial Hospital under the will of Miss Martha Wilson.

—Additions to the West Suburban Hospital to bring its capacity to 500, which will cost \$1,250,000, will be started at once.

—Under the will of Mrs. Albertine Gehrman, widow of Dr. Adolph Gehrman, the sum of \$45,000 is left to provide a fund for "sick and disabled physicians."

—The Globe Hospital, Freeport, has been purchased by the Deaconess Society of the Evangelical Church of the United States, which will take charge immediately, and renovate the institution.

—According to the annual report of the Psychopathic Hospital of Cook County, among 5,550 patients confined in that institution during 1923, there were 1,310 cases of acute alcoholism, and 1,920 cases of dementia praecox.

—A public lecture by Elmer V. McCollum, Ph.D., Johns Hopkins University, Baltimore, on the "Relation of Diet to Bone and Tooth Development and Tooth Preservation" was given at the University of Chicago, January 11, under the auspices of the local Chapter of Sigma Xi.

—The administration, hospital and surgical sections of the Palmer Tuberculosis Sanatorium, Springfield, were opened for the reception of patients, January 8. These buildings, erected at a cost of \$75,000, are part of a building program which will probably be completed during 1924. The hospital section, to be devoted to surgery of the lung and surgical tuberculosis, has a bed capacity of thirty-five.

—The Chicago College of Dental Surgery, Harrison and Wood streets, has been acquired by Loyola University. The executive management of the school, its teaching faculty and its name will remain unchanged. Drs. Truman W. Brophy, C. N. Johnson and William H. Logan will continue to administer the affairs of the school. One provision of the transfer was that a percentage of the annual gross revenue of the school will be devoted to the formation of permanent endowment for the advancement of dental education and research. The Chicago College of Dental Surgery was founded forty-two years ago.

—Mrs. Montgomery Ward announced, January 20, the gift of another \$1,000,000 to Northwestern University. A contract of affiliation has been made with Wesley Memorial Hospital, to effect the construction of a large hospital on the McKinlock campus at Lake Shore Drive and Chicago Avenue. It is proposed to erect a 300 to 400 bed hospital for teaching purposes either adjacent to the medical building made possible by Mrs. Ward's gift, or under the same roof with it. Adjoining this will be a hospital for private patients; and at a later date a building for children, an orthopedic center, and neurologic and psychiatric buildings will be erected, in addition to a nurses' home and home for hospital employees. The contract requires that the hospital be constructed before Jan. 1, 1929. Mr. Gilmore, superintendent of the hospital, stated that an effort will be made at the general conference of the Methodist Episcopal Church in May to have the church take over the present Wesley Memorial Hospital and operate it as a hospital and nurses' training school for negroes. The campaign to raise funds for the new hospital will begin at once.

—John T. Milliken & Company, St. Louis, Missouri, announces the appointment of E. F.

Gillis as General Sales Manager with headquarters in the main office. Mr. Gillis comes from the firing line, having formerly been in charge of the Western Sales Division, at Denver, Colorado, where he distinguished himself creditably.

—The administration, hospital and surgical sections of the Palmer Tuberculosis Sanatoria, at Springfield, were opened for the reception of patients early in January. These buildings, erected at a cost of \$75,000, are a part of a general building program which will probably be completed during 1924. The hospital section, to be devoted to surgery of the lung and surgical tuberculosis, has a bed capacity of thirty-five. The surgical operating unit contains, in addition to large operating, sterilizing and dressing rooms, a very complete x-ray and general laboratory.

—Once more we gladly extend congratulations to our old friends, Huston Brothers Company, upon the extensive orthopedic addition to their business. We understand that they have secured as their foreman a Lorenz expert who has recently arrived from Vienna. Physicians in need of elastic stockings, abdominal supporters, sacro-iliac corsets, or anything in the line of orthopedic appliances, may safely intrust their orders or inquiries to this old, established firm. We are informed that this new year, 1924, is the thirty-sixth year since Huston Brothers Company started in business—still another reason why this journal wishes to extend congratulations.

—Rev. James Hayter, reporting to the Presbyterian Board of Foreign Missions at 156 Fifth avenue, New York, concerning the Presbyterian Mission at Guatemala, asks that some *American surgeon volunteer* for service at the Guatemala station where the demands upon the hospital have reached such a state that the doctor and nurses are worked beyond human endurance. It has been found necessary to restrict the number of major operations, though as many more apply than can be accommodated. An addition surgeon would double the value of the hospital in a district where the hospital is a great Christianizing influence. Dr. Charles A. Ainslie and Mrs. Bessie M. Nurminger are reported to be on the verge of a breakdown because of the stress they are undergoing.

Deaths

FORREST RUSSELL BUTTERFIELD, Chicago; College of Physicians and Surgeons, Chicago, 1905; a Fellow A. M. A.; served in the M. C., U. S. Army, during the World War; aged 44; died, December 25, at the Jackson Park Hospital, of injuries received when his automobile was struck by a train.

WILLIAM MILLIGAN FERGUSON, Nevins, Ill.; Jefferson Medical College of Philadelphia, 1883; member of the Illinois State Medical Society; formerly county coroner; aged 62; died, January 12, of heart disease.

CHARLES HARRIS HIBBE, Chicago; Hahnemann medical College and Hospital, Chicago, 1895; aged 69; died, January 3, at the Alexian Brothers' Hospital, of septicemia.

ZACHARIAH HICKMAN, Benton, Ill.; University of Nashville (Tenn.) Medical Department, 1861; Civil War veteran; aged 77; died, December 30, 1923, of senility.

EDWARD S. HIGHLEY, Glenelg, Ill.; Chicago Homeopathic Medical College, 1886; formerly county physician; aged 61; was instantly killed, December 31, 1923, when the automobile in which he was riding was struck by a train.

ADDISON COFFEE JAMES, Springfield, Ill.; Rush Medical College, Chicago, 1880; also a druggist; aged 70; died, January 13.

ADAM EWING MILLER, Jerseyville, Ill.; Rush Medical College, Chicago, 1869; aged 85; died, December 23, 1923, of heart disease.

WILLIAM PARKER, Peoria, Ill.; Bennett Medical College, Chicago, 1880; Medical Department of the University of the City of New York, 1890; member of the Illinois State Medical Society; aged 72; died December 16, 1923.

GEORGE M. SCHAUBEL, Chicago; Chicago Homeopathic Medical College, 1894; a Fellow A. M. A.; on the staffs of the Norwegian-American, and the Norwegian Deaconess Hospitals; aged 50; died, December 21, 1923, of myocarditis.

EDWIN AUGUSTUS SELL, Springfield, Ill.; Medical Department of the University of the City of New York, 1883; also a druggist; aged 60; died, January 5.

CHARLES A. STONE, Belvidere, Ill.; Chicago Homeopathic Medical College, 1877; aged 74; died, December 9, of cerebral hemorrhage.

GEORGE SULTAN, Chicago; Baltimore (Md.) Medical College, 1893; a Fellow A. M. A.; aged 62; died suddenly, January 15, of angina pectoris.

CHARLES WORTH TALBOTT, Lake Villa, Ill.; Rush Medical College, Chicago, 1883; a Fellow A. M. A.; aged 72; died, December 26, 1923, of chronic nephritis.

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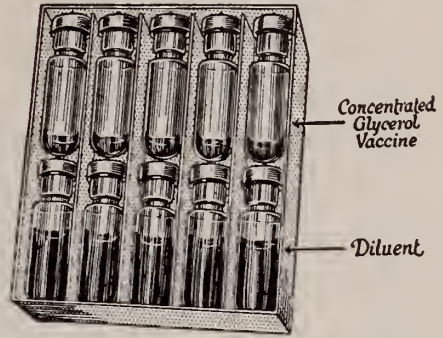
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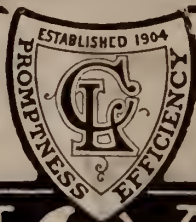
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Physician-in-Charge

FREDERICK W. GESSNER, Asst. Physician

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Editorial

THE SENATE VOTE ON THE SHEPPARD- TOWNER CO-OPERATION BILL

In the last Illinois Legislature there was what
is known as a bill to provide for co-operation
on the part of Illinois with national Sheppard-
Towner Maternity Act. The medical and allied
professions of Illinois fought this measure ener-
getically and contributed no small share towards
its ultimate defeat.

The following is the affirmative and negative
vote on the bill in the Senate. The vote of the
respective senators is again reproduced for the
benefit of the Doctors in each Senatorial district.
The data may be found useful at the forthcom-
ing primaries in April.

The following Senators voted in the affirmative:

Bailey, Barbour, Barr, Buck, Dailey, Dunlap, Duvall,
Essington, Ettelson, Glackin, Glenn, Haenisch, Hicks,
Jewell, Kessinger, MacMurray, Marks, Mason, Roos,
Schulze, Searcy, O. W. Smith, Sneed, Swift, Telford,
Turnbaugh, VanLent. Yeas—27.

The following voted in the negative: Messrs.

Boyd, Boehm, Carlson, Giberson, Gray, Mills, Pio-
trowski, Webster. Nays—8.

Answering present but not voting: Messrs.
Cuthbertson, Shaw, N. E. Smith, Wright. Total—4.

NOTE: That Senator Essington is now a
candidate for Governor. Senator Dunlap made
a speech for the bill: Senator Glenn spoke for
the bill and kidded the Doctors throughout his
speech; Senator Jewell spoke for the bill, as did
also Senator Mason; likewise Senator Swift.
Senator Barbour made a speech for the bill and
among other things said: "The Doctors think
they own me." The readiness with which a
Senator can flop from one side to the other of a
proposition is shown by the following by Sen-
ator Barbour. This letter is in response to a
telegram sent Senator Barbour asking him to
vote against the Sheppard-Towner Bill. The
following is his reply:

"Springfield, Illinois, May 3, 1923.

Mr. Edward C. Lulling,
6350 N. Western Ave.,
Chicago, Illinois.

My Dear Sir:

I appreciate your telegram and beg to inform you that I am against the bill you speak of.

Yours very truly,

James J. Barbour."

Mr. Barbour informed several of the Medical Committee in person that he was against the bill, yet when it came to voting he saw fit to be for it.

Senators Boehm, Giberson, Mills and Webster spoke against the bill. Senator Wright, a doctor, was present but did not vote.

DOCTORS SHOULD TABOO PARTY POLITICS. NOW IS THE TIME TO MAKE YOUR INFLUENCE COUNT.

Following previous primaries and elections members of the House and Senate have offered among other excuses that they did not know that the medical profession were on the map. That had they realized that there is such a thing necessary as public health protection that they would not have pledged themselves thus and so and as a result they voted against the best interest of the public and the medical profession.

Since all members of the House and half the members of the Senate must come before the public at the primaries in April, and will ask the support of their constituents, it will be possible for the doctors on each district to throw their influence in favor of certain candidates. This furnishes an opportunity for the physician to exercise his right of selection of candidates, and he should vote only for such men as can be trusted to vote intelligently in the legislature on matters concerning health measures in this state.

Under present conditions Doctors should be more patriotic than partisan at elections. Self preservation is one of the first laws of nature. Medical men must stand together. The organized profession must have a clear cut platform on things medical and must not hesitate to back it whether it is unpalatable to either of the old parties and their candidates. In the new order of things there is no longer to be considered the party brand. The slogan for the future should be: "Does the candidate stand for radical med-

ical legislation, which is always un-American, destructive alike to the interests of the people and the profession."

The welfare of the profession and the masses of our people is knitted and woven into the fabric of the campaign against bolshevism and destructive foreign propaganda financed and fostered by agents of destruction. The ideals for which we strive are always in the interests of the public and are not impossible of accomplishment, if we will wage a constructive fight against the election of any candidate for the legislature or for other office who are in sympathy with un-American propaganda.

Whether one is a democrat or a republican makes no difference in local government. He can join in the saving of the government without abandoning his political party. What we need now is political leaders who will not show cowardice in evading issues involving the safety of our government because they antagonize aggressive minority organizations. Loyalty to the best interests of all the people must be above and beyond that of any civil or industrial organization working for the interests of special groups or classes.

Elsewhere in this issue will be found the names of the candidates seeking nomination before the primaries in April. Be sure your candidate is right before you vote for him.

PRESIDENT COOLIDGE IS AGAINST STATE AID, PATERNALISM AND OTHER FORMS OF FREAK LEGISLATION.

On January 21, President Coolidge addressed the members of the Government's business organization. We quote from his speech as follows: "I take this occasion to state that I have given much thought to the question of Federal subsidies to the State Governments. The Federal appropriations for such subsidies cover a wide field. They afford ample precedent for unlimited expansion.

"I say to you, however, that the financial program of the chief executive does not contemplate expansion of these subsidies.

"My policy in this matter is not predicted alone on the drain which these subsidies make on the national treasury. This of itself is suffi-

cient cause for concern. But I am fearful that this broadening of the field of government activities is detrimental both to the Federal Government and to the State Governments.

"Efficiency of Federal operations is impaired as their scope is unduly enlarged. Efficiency of the State Governments is impaired as they relinquish and turn over to the Federal Government responsibilities which are highly theirs."

In speaking of Federal subsidies to State Governments the President said he had given this subject much thought and that his program does not contemplate this sort of expenditure. The drain of the Federal treasury, he declared, was sufficient to cause concern but, more to the point, this broadening of the field of Government activities is detrimental not only to the Federal Government but to the State Governments as well.

"Efficiency of Federal operations is impaired as their scope is unduly enlarged, and efficiency of the State Governments is impaired as they relinquish and turn over to the Federal Government responsibilities which are rightfully theirs."

President Coolidge believes in the essential virtues—self reliance, thrift, loyalty to truth, subordination of expediency to righteousness. He has no sympathy for paternalism or undue dependence on the grandmotherly state. He is a staunch upholder not only of State rights but of local autonomy, of local initiative, of neighborly co-operation. He admires the original plan of town government, a government of the citizens and by the citizens.

Millions of Americans are in revolt against paternalism and state subsidies and other menacing features of present day legislation. It is the wise politician who will take note of this uprising and align himself with the President. It is time that we begin to decentralize government and to curb federal activities as a growing menace detrimental to the Federal Government and to the State Governments, and nowhere is this menace more to be feared than in the care and treatment of the health welfare of the people.

PAY THE BOYS THE BONUS

We have stoutly maintained right along for a reduction in taxes but we consider the soldier bonus a matter of simple justice. They went

to war in obedience to the command of the government. Some 320,000 of them were either killed or wounded while several hundred thousand lost their jobs while a number of un-American and unpatriotic citizens stayed at home making enormous wages and profits while the boys were in the trenches. Especially those who sold arms, ammunition, war material, clothing, etc., as well as those who had contracts for building ships, barracks, those in the banking business, those who sold liberty bonds for a commission, and those who reaped large profits, also those that after the war bought the left over manufactured products from the government at knock down prices.

These classes of people should be made to pay the bonus to the boys who risked their lives and their health and lost valuable time while the un-American and unpatriotic profiteers were reaping a harvest at home.

Retrenchment to an amount sufficient to meet the bonus act can be readily accumulated by discontinuing the thousands and one uplift schemes now on the statute books sponsored and put on the the statute books by uplifters, social settlement workers, etc., many of whom were under government scrutiny for seditious activities while these fine American boys were fighting to make the world safe for democracy.

YOU WILL PROBABLY DIE BEFORE YOU ARE FIFTY YEARS OLD

Mr. E. E. Rittenhouse of the Equitable Life Assurance Company in his report to the life insurance presidents says

You look smooth, pink and healthy.

You are a good liver. (He said *are*, not *have*.)

You hurry. The medium age at death of the American people is 43.

Your eyes have been strained by inside work: hence the glasses.

You are seriously overstraining heart, arteries, kidneys, nerves and digestion—as the rapidly increasing death rate shows.

You could detect and head off these troubles if you would go to a doctor for an occasional examination.

Under exertion you are short-winded, due to lack of exercise or a bad heart.

Your four hundred muscles are virtually all soft and weak from lack of use.

You are designed as an erect, outdoor animal,

with feet and legs for service; but you lie down all night and sit down all day.

You never walk when you can ride.

The arches of your feet are gradually falling, because the muscles provided to hold them up have weakened from long disuse.

Your ancestors lived on a farm; the proportion of people living in cities has increased 131 per cent in fifty years.

You feed your stomach with all sorts of "tasty junk," much of which cannot be fully digested; so you develop auto-intoxication.

With every pound of fat you gain your chances of a shortened life increase.

You eat 30 per cent more food than your grandfather did; and 374 per cent more sugar.

You spend 367 per cent more for patent medicines and drugs than your father did; and drink 54 per cent more coffee.

In your easy-going optimistic way, you are cheered by the fact that the general death rate is declining. You fool yourself with the notion that this means a green old age for you.

As a matter of fact, the decrease in the death rate is due to the better care of infants.

Not only is the adult death rate not decreasing; it is alarmingly increasing.

Since 1900 the death rate from Bright's disease has increased 15 per cent; from disease of the heart, 27 per cent.

These are the diseases of adult life—the diseases of hurry and worry and overeating and nervous wear and tear.

This picture, remember. It is painted by Mr. Rittenhouse, whose business it is to figure how much you ought to pay for life insurance, in view of the fact that you will probably die before you are fifty years old.

Mr. Rittenhouse says there is hope for you.

His annual medical examination; more exercise outdoors; less food; more dentistry; no booze; more walking and less taxicabs.

Most of all—no hurry and no worry.

HEREDITY ENVIRONMENT AND DISEASE TRANSMISSION

Whether yesterday or today, is tomorrow's governing influence, continues to agitate physicians and economists seeking a rule of thumb for race preservation and improvement. Endless discussions pitting heredity against environment as a

potent factor in individual determination find puzzlingly impartial support.

Morrow says "The many definitions of heredity agree in the essential principle that heredity is the capacity of transmitting the characters or qualities of the progenitors to the descendants. According to the accepted theory these characters reside in a small collection of cells,—the germ cells, the specialized function of which is the perpetuation of the species."

According to this accepted theory, acquired characteristics, such as external mutilations and the like, cannot be transmitted to the offspring. Neither can specific diseases be transmitted as the infecting agent is not present in the germ cells. Still, certain specific diseases, notably syphilis, are at times transmitted to the foetus in utero. As this is a case of early infection, it is not heredity in the biological meaning of the term.

"Few people would maintain that the ills acquired by the parents would be devoid of effect upon the wellbeing of children. The germinal plasma is lodged in the parent's body. If the parent dies the plasma dies. If the parent suffers from any deeply penetrant disorders of nutrition, the probabilities are that this germ plasma must similarly suffer," are contentions of Ormerod.

General recognition is accorded as to a statement of fact, that any disease affecting the whole process of metabolism, or of blood formation, or of the nervous system, affects also in some fashion, the germ plasma, — most probably through bio-chemical processes. Further acceptance is made of the premise that, while no one disease is transmitted in this manner there does result such a general enfeeblement, or degeneracy of the offspring, as renders such offspring peculiarly liable to similar disease, when exposed to the exciting cause.

Therefore, heredity plays a virile part towards inciting the individual and predisposition to disorders of metabolism,—such as diabetes, rheumatism, and gout; to constitutional diseases,—such as tuberculosis, and to disorders of the nervous system.

There are also certain defects or degenerations of special tissue that are apparently directly inheritable. Among these are hemophilia; color-blindness; albinism; some deformities of the limbs, and analogous peculiarities

that are rarely of a serious pathological nature. *But in no field is the influence of heredity more important than in that of nervous and mental diseases.* Among Americans, these diseases are becoming practically racial.

"The predisposition to disorders of the nervous system is extremely heritable," writes Graves. "This is said to be due to the fact that the nervous organism is the most complex in the body, and is therefore, most easily thrown out of equilibrium."

And again, Dr. Woods Hutchinson in his book on "Preventable Diseases" makes the statement:

"All our processes of repair, all the reactions of the body against the attack of accident or disease, are hereditary endowments, worked out with infinite pains and labor through tens of thousands of generations. The utmost that we can do with our drugs and remedies is to appeal to, and rouse into action the great healing power of nature . . . an incarnation of our past experiences handed down by heredity."

Another recent medical writer asserts that "Science as well as the Scriptures teaches that 'From thorns men do not gather figs, nor of a bramble bush, gather they grapes.' 'A good tree bringeth not forth corrupt fruit; neither doth a corrupt tree bring forth good fruit. Every tree is known by his own fruit.'"

"The conclusion is reached that not only bodily characteristics but also those of the mind are essentially determined by the hereditary endowment received from the parents. This result is of great importance. Practically it shows how little room is left in the development of the individual for the effects of environment even on the intellect or on the mind, in the broadest sense of the word," says Doncaster. "No doubt the direction which intellectual development takes, is, to a considerable extent determined by circumstances, but the *kind of mind* is decided irrevocably before the child is born."

This means that the old saying, "A gentleman is educated three generations before he is born," had more to back it up than legendary tongue tattle! But this meaning is not accepted without dissension.

Seeking further one notes the writing of W. E. Neiberger that "It is true that education and environment have much to do with human devel-

opment, yet the fact remains that the raw material out of which civilized man is produced is the chief and important thing. . . Heredity furnishes the raw material ready for the process of polishing. The culture and the education are only the polish added to the raw material."

Rare argument this for selectiveness in human mating as well as in animal breeding. The question is, "What sort of raw material takes the polish best?" And is polished material in the human element as deficient in the essentials that make for race betterment, as are the superfine grains lacking in the elements of food suited best to nourish and to sustain life?

Let further quotation be made to the effect that "Undoubtedly it has resulted that the intellectual progress of the human race has been retarded by ghosts of wornout theories, crystallized into proverbs and aphorisms whose veracity has gone for centuries unquestioned; and every real advance has been accompanied by the disintegration of some tyrannous theory and the banishment of some ghost or 'bogy'. And perhaps, too it may be that one of the 'bogeys' that has for too long held unquestioned sovereignty over the mind of man, and severely conditioned his thinking and speculative outlook, is the theory of heredity."

These cited excerpts indicate opposite views cherished by various scientists in regard to the much disputed hypothesis as to the relative importance played in the making of man by heredity and environment.

That natural inheritance is of the greatest force in character building is one contention. Arrayed against this is the claim that environment, or surroundings, is of paramount importance, and far more likely to produce results than any so-called traits of inheritance.

Each side of the argument has weighty claims. It is evident that heredity plays an important role in the future of an individual—physical, mental and moral. That environment both of things and people are of the greatest value in character moulding and directing, is equally true.

Certain men of genius are often referred to as examples of hereditary greatness managing to display itself in spite of unfortunate or untoward circumstances, as a proof of the statement that "Environment is of slight account." On the contrary, "If genius succeed, it becomes known;

but of the genius that succumbs, no evidence can be given."

Writing in the *International Quarterly*, volume 8, page 147, J. G. Brooks asserts:

"Environment is a permanent factor. It is justly assumed that the possibilities of character are unknown until environment has been made favorable to function. From this point of view, there is no exclusion of inner force or of outer circumstance. Both are vital to the whole which constitutes our problem. . . . It is a settled race experience that hereditary quality is a constant power, and it is also settled that life's surroundings are no less a power."

Hearken also, to the great Darwin: "Moral qualities are advanced, either directly or indirectly, much more through the effects of habit, the reasoning powers, instruction, religion and the like, than through natural selection."

In "The Development of the Child," Oppenheim says, "Civilization is the sum of those contrivances which enable human beings to advance independently of biological heredity. . . . The child is so easily influenced . . . that, unless there is a fixed and constant plan of action which is designed to fashion him in a certain manner, his final condition will be settled by a ragged combination of chance influences."

It has been asserted that incapacity is inherited. "Many children are born 'mentally deficient,' or even 'criminally disposed.' However '*Stimulating*' the environment, such children can never become normal."

A reply to this assertion comes from F. H. Hayward in his comment, "The scientific study of education is only at its commencement, and yet we know already that the hereditary dullness of many children springs solely from adenoids, illness, or lack of air, food, or sleep. The brain is sound, but it is not given a chance. With facts like these before us, and with innumerable other instances of the attribution to heredity of defects not truly hereditary at all, we must hesitate again and again before depreciating the power of education."

In this hypothesis, as in millions of others, the line of demarcation would seem to allow for a modicum of truth in the midst of any error. Until men shall know the habitat and controlling leverage of the soul, and the keynote to the realm of the supernatural, the contentions of environ-

ment and heredity may be said to pivot on an eternal balance. In either case the "benefit of the doubt" may not come amiss.

HEREDITY AND MENTAL DEFECTIVES

The geometrical progression of life and the continuity of species is prone to evidence itself in the laws of heredity. "Like breeds like" is an axiom of fateful poignancy.

Take for example:

Mendel's Law of Inheritance, as extended by Rosanoff to apply to psychopaths, demonstrates that:

1. Both parents psychopathic, all of the offspring will be psychopathic.

2. One parent normal with psychopathic taint from grandparent, and the other parent psychopathic, half the offspring will be psychopathic and the other half normal, but liable to have psychopathic offspring.

3. One parent normal with normal ancestry, and the other parent psychopathic, all of the offspring will be normal, but liable to have psychopathic offspring.

4. Both parents normal but each having psychopathic taint from grandparent, one-fourth the offspring will be normal and one-fourth psychopathic, the others normal but liable to have psychopathic offspring.

5. Both parents normal but one with psychopathic taint from grandparent, all the offspring will be normal, but half of these may have psychopathic offspring.

6. Both parents normal with pure ancestry, all offspring normal, and not liable to have psychopathic offspring.

The examination of the official reports of sixteen reformatories scattered through as many states where investigation of the mental status has been made, show that 65 per cent of these inmates are feeble-minded.

Reports of the prisons in seven states where like investigations have been made show that an average of 54 per cent are mentally defective. Examination of jail inmates in many places throughout the land has shown that mentally defectives form more than 50 per cent of the total jail population, is stated by the National Committee for Mental Hygiene.

The psychopathic laboratory of the municipal court in Chicago in the examination 4460 prosti-

tutes found 80 per cent of them mentally defective. A Massachusetts committee investigating white slave traffic found in 300 prostitutes examined that 87 per cent of them were mentally below the age of eleven. In the Albany courts it was found that 56 per cent of the prostitutes were murderers, and to support this horde of unmittee for mental hygiene, after examination of many poor houses, county farms, and like institutions for the care of paupers, reports that the mentally deficient are more than 30 per cent of all the inmates.

H. M. Pollock, member of the New York State Hospital Commission, states that "one in twenty-five of the population at some period of life becomes insane." The United States census shows that from 1890 to 1920 the number of insane had increased from 118 per 100,000 of population to 220, and that their care and economic loss yearly amounts to more than \$200,000,000, and that "mental deficiency, epilepsy, pauperism, and crime cause still greater annual loss to this country."

SOME RESULTS OF HEREDITY

Like generates like. The son inherits the good and evil traits of the parent and of the parents' parents even until many generations. While the instances prove these facts are too numerous to mention, it may be well to quote some of the more striking.

Dr. Havelock Ellis has described a German family, of whom 834 persons were known to have been descended from a physically strong but mentally weak, drunken woman. The very large majority of these persons were prostitutes, drunkards, tramps, paupers and criminals. Some were murderers, and to support this horde of undesirables the German government has been put to an expense of more than \$1,250,000.

Most physicians are familiar with the notorious Jukes family, 130 of whom have been convicted of crime.

Up until the year 1891, the cost of this Juke family to the state of New York was \$1,308,000. By now, in all probability this cost has reached the sum of more than two millions of dollars.

John Ishmael and his half-breed wife came to Indiana about 1840. He is supposed to have been a descendant from some of the criminals deported to America from England prior to 1770. Gradually others of the same type, and from the same source, came to Indiana and largely inter-

married among their kind. The outstanding characteristic of the whole tribe, which is known as Ishmaelites, was feeble-mindedness, licentiousness, thieving, begging, and a wandering life. Two years ago their numbers were estimated to exceed 10,000 scattered through the Middle West, few of them self-supporting, none of them desirable citizens, most of them securing a living by stealing, begging, prostitution, and living in jails, poor houses and prisons, and by public charity, living in any way except by work.

Investigation of the "Nam" family was found in eight generations of descendants to number now over 850, and they are characterized by crime, drunkenness, prostitution, pauperism, and mental deficiency, and have cost the State of New York over \$1,400,000.

Heredity fortunately is not all of the degrading type. Of the many splendid examples of the beneficence of transmitting good traits to posterity one is found in the descendants of Jonathan Edwards, not one of whom was ever convicted of crime and most of whom have occupied positions of honor and trust.

For the sake of comparison we append two tables as object lessons:

MAX JUKES (Born 1720.)

1,200 descendants identified.

- 300 in the poorhouse.
- 300 died in childhood.
- 440 viciously diseased.
- 400 physical wrecks.
- 50 notorious prostitutes.
- 7 murderers.
- 60 habitual thieves—averaging 12 years in jail.

JONATHAN EDWARDS (Born 1703.)

1,394 descendants identified.

- 295 college graduates.
- 1 Vice-President.
- 3 United States Senators.
- 12 college presidents.
- 65 college professors.
- 60 physicians.
- 100 clergymen.
- 75 army and navy officers.
- 60 prominent authors.
- 100 lawyers.
- 30 judges.
- 80 public officeholders.

In contrast to these defective families, was the

attempt to improve the human race by selective generation, which was made by the Oneida Community, a religious sect founded on the idea of attaining perfection. In this experiment the young people attempted to bring about human regeneration by scientific generation, and to that end, before marriage, the couples were examined by a committee, two of which were physicians, as to their mental and physical and spiritual fitness to bring forth offspring. Ninety-eight children were born under this plan during the years between 1869 and 1879. None of these were born deaf, dumb, deformed, or idiotic. Up to September, 1921, fifty-two years since the beginning of this experiment, but six deaths had occurred among these children—one from brain tumor, one from scarlet fever, one from aneurism, and three from accident, only 13 per cent of the average death rate in the United States during those years. The parents (eighty in number) of these children showed marked longevity. Eight died between twenty-nine and fifty-five, forty-four died between fifty-five and eighty-nine, and twenty-eight were still living over seventy in 1921, demonstrating the care which the committee exercised in their selection. *In this Oneida experiment there have been no criminals, no prostitutes, no paupers, no drunkards, no insane,* all of these good citizens helping to sustain the state instead of impoverishing it.

Statistics can be extended indefinitely showing the value of selection in upbuilding the human intellect and physique. Statistics without limit could be cited showing that insanity, prostitution in females and association with prostitutes on the part of the male, indiscriminate sexual indulgence by either male or female, criminality, drunkenness, pauperism, shiftlessness, laziness, irresponsibility, addiction to lies, and general untruthfulness, general moral, social and economic instability, moral laxness in either men or women are evidence of subnormal mentality, and that this class of defectives comes largely from the ranks of the mentally abnormal. Unfortunately these defectives are increasing at twice the rate of the general population.

As most preventive medicine has come through the investigation and efforts of the regular medical profession, we must look to our profession for help in this great branch of preventive medicine.

The Panama Canal zone was rid of the pesti-

lence of fever by eradicating at its source the breeding of a special kind of mosquito. The moron so commonly met with in every day life as well as the more pronounced mentally abnormal must be prevented from breeding their kind. It is the duty of the medical profession to urge that the medical schools teach the law of Mendel and imbue their students with the idea that the prevention of mental abnormalities should fill a large place in the efforts of preventive medicine. It is the duty of our profession to educate the public that the mentally abnormal breed their kind, and to arouse interest in securing proper marriage laws, to secure larger provision for hospitals and schools and colonies for this class of people, thereby diminishing crime, imbecility, insanity, and pauperism, making it less necessary to spend as much as at present on hospitals for insane, poor houses, reformatories, and prisons.

INHERITANCE OF BRAINS

Examination of vital statistics of the population in general as to the relation between the age of parents and the intellectual standing of their children discloses that about 32 per cent of all children born are the offspring of fathers who are under 30 years of age, while 22.22 per cent have fathers over 40. When men of mark are studied, a totally different set of figures results. Here is where maturity tells.

Of one hundred British men of science whose pedigrees were investigated by Sir Francis Galton, only 17 were born of fathers under 30, while 28 were born of fathers over 40.

Of 299 British men of genius examined by Havelock Ellis, 18.73 per cent had fathers under 30, and 34.45 per cent had fathers over 40. Casper Redfield, an investigator of Chicago, has made the most comprehensive study of all. He has traced the pedigrees of 571 eminent men in all walks of life and from all parts of the world. Only 11.4 per cent of them were born to fathers less than 30 years of age, while those born to fathers who had passed the fortieth milestone numbered over half the total number, or 52.77 per cent.

Furthermore, Redfield has shown that while only 3.33 per cent of the total number of children born have fathers fifty years of age and

older, 18 per cent of eminent men are the offspring of such elderly fathers. Contrariwise, 9 per cent of all babies are born to fathers 24 years of age and younger, while only 1.63 per cent of eminent men have such youthful progenitors.

Mr. Redfield holds that children of elderly men have by far the best chance for distinction, because they inherit some of the mental energy developed by their parents in the struggle of life, and that the intellectual effort of the parents increases the intellectual power of the child. Since the sum of such effort is much greater in man of mature years than in youngsters, the middle aged and elderly men are the ones whose sons rise to eminence.

The authorities herein cited have brought a world of data to support the theory that the sons of men past middle life achieve greater eminence than those of younger fathers. The difference mentioned is not accidental.

THIS YOUNGSTER SHOULD BE HEARD FROM

If the theory is correct (and it seems to be fortified by statistics) that the children of fathers past 40 achieve greater eminence in the world than the sons of younger fathers then the world should hear something of the youngest son of William H. Upham, former Governor of Wisconsin, who last year had a son born when his father was almost 81 years of age.

PROSTITUTION, MENTAL DEFECTIVENESS, AND THE SPREAD OF DISEASE

Food for thought lies in the findings that ninety per cent of all prostitutes possess subnormal mentality. From a medical standpoint, the term "prostitute," should be used in the broadest sense. This includes the regularly public woman, and also that area charted as clandestine prostitutes, and made up of those immoral women, already married, but indulging in promiscuous relations with a number of men; also those immoral unmarried women, diversely employed and masking their true professions. The list should include also, the fifty-seven varieties of unspeakable degenerates known as sexual pervers.

Without doubt, exact survey of the mentality of prostitutes would discover a 100 per cent return of the mentally defectives, with a mentality rating below that of a normal child of eleven

years. Up until the present time this subject has had merely cursory and incomplete investigation.

All prostitutes are diseased. Men who associate with prostitutes will certainly become diseased from these contacts.

In view of the fact that the prostitute, whether public or private, is the chief distributive center for venereal diseases, in a segment of this familiar vicious circle will be found the long sought for annihilation of the social evil.

The case against venereal disease and the carriers of this plague was heavy enough without the additional weight of the knowledge that mental defectiveness and prostitution were apparently coincidental. No fabled "living death" of primitive mythology wreaked worse havoc than does venereal disease.

As a cause of death among civilians living in temperate climates, syphilis is placed "at the top, as an easy first among infections," by no less an authority than the great Dr. Osler in the annual oration before the Medical Society of London. He estimated that syphilis caused 60,000 deaths in Great Britain in 1915 (20,000 still-birth), 15,000 to 20,000 from paresis, or softening of the brain, 10,000 from tabes-locomotor ataxia; and 10,000 deaths from syphilitic cardio-vascular diseases.

Recent weekly reports of the New York Department of Health show that syphilis is almost at the top of the list as a mortality agent.

Gonorrhea has appalling aftermath. "Anyone knows where gonorrhea begins, but only God knows where it will end," said the famous Ricord.

Physical wrecks in every land could rise in agonized testimony to this effect.

Gonorrhea has disabled its thousands but the after-effects of gonorrhea have disabled tens of thousands. An untreated gonorrhea always has its aftermath. This is true even in a large per cent of the so-called "treated cases." Ignorance and lack of co-operation on the part of the patient in a great percentage of so-called "treated cases," unhappily results in such crude and inadequate care as to amount to practically no treatment at all, or worse.

Even with the most intelligent and careful treatment it is not always possible to avoid complications and sequelae.

After effects of gonorrhea are of special frequency in women, although the disease itself is

of much less virulence, as a rule than in men. Two facts, of course, bear relation to each other. For, while gonorrhea is much simpler and more easily cured in the female than in the male, it so frequently runs its course unnoticed and untreated in the female that sequelae are much more common. Added to which, the anatomy of the female pelvis renders it peculiarly susceptible to extensions of the disease process.

Any one of the organs of the female pelvis or abdomen may be the seat of post gonorrheal infection, and frequently is. Metritis, endometritis, cervicitis, salpingitis, pus-tubes, ulceration of the uterus, erosion of the cervix, are any or all probably gonorrheal in origin.

According to Dr. Howard Kelly, Professor of Diseases of Women at Johns Hopkins University, *venereal diseases cost the United States three billion dollars a year.*

Again quoting Dr. Osler before the Medical Society at London, he attributes "thirty to forty per cent of congenital blindness, fifty per cent of sterility among women, and twenty-five per cent of major operations among women to gonorrhea.

At least 75 to 95 per cent of all cases of so-called female complaints and complications are caused by gonorrhea.

Gynecologists and surgeons everywhere bear out the statement that there is no germ known to science as deadly to a woman's generative apparatus as is the gonococcus, the germ of gonorrhea.

The number of women rendered invalid or permanently sterile, and the number of cases of blindness due to the gonococcus represents an appalling national loss.

There are in the United States 12,000 blind babies who have been made so by gonorrhea. The germ of the disease invaded their eyes while the head was passing through the birth canal of their mothers.

This germ was put into the birth canal by the father who had had gonorrhea sometime during his life. He had failed to take the right kind of treatment, or had stopped treatment before he was cured. On many occasions this culpability is the mother's.

In the male this disease is as a rule much more virulent at the outset than it is in the female. For this reason gonorrhea in the male is

much less likely to escape attention, and far more likely to receive supervision and treatment. Incidentally gonorrhea when encountered in the male is more difficult of cure than when a female is infected.

Aside from tuberculosis and cancer and the chancres or other evidences of acute syphilitic infection, as a rule genitourinary diseases in men are the result of gonorrhea.

Prostatitis, both acute and chronic, cystitis, chronic posterior urethritis and epididymitis, are the commonest post-gonorrheal diseases in the male—usually, too, with a mixed infection grafted upon the original lesion.

The notable feature of the matter is that while these diseases have their beginning as a gonorrheal infection, in the genitourinary class, ultimately they break through both of these limitations. Pathologically they become mixed infections, often indeed, losing their Neiserian or gonorrheal identity. In its place we have to deal with the deadly streptococcus or one or more of the many germs found in what is known as mixed infections.

The seriousness and difficulties encountered in curing and in preventing the spread of venereal diseases is graphically shown when we analyse the following statistics:

It is claimed that there are in this country 45,000,000 people with an intellect rating below 11 years: that there are 25,000,000 people with an intellect of about 14 years. It is from these classes that prostitutes both male and female are recruited. A large percentage incapable of education can not be made to appreciate the seriousness of the condition. A good portion of this class of mental defectives feel that inasmuch as they themselves are the victims of the disease they owe nothing to society and feel no compunctions about passing it on to their fellow men. Indiscriminate sexual indulgence on the part of men and women; lack of regard for personal cleanliness and prophylaxis, and lack of knowledge and appreciation of the seriousness of the condition itself and its possible consequences, leads to an alarming rate of occurrence of syphilis and gonorrhea. This together with the fact that subsequent to the development of the disease there is a lack of perception and evaluation of its seriousness, together with a disregard of proper treatment, brings as an inevitable result either a focal infection or a systemic condition

which in either case proves a serious menace to the individual, to the community or most often, to both.

A venereal menace little appreciated by the laity is the readiness with which syphilis is transmitted from person to person in the act of kissing.

Prevention and spread of venereal disease is primarily a medical problem. Some physicians feel it beneath their dignity to treat venereal diseases. This attitude is wrong. It is now and has at all times been the duty of the medical profession to help safeguard the health of the people. In no respect is the advice and co-operation of the profession more needed than in preventing the spread of venereal diseases. Because a great proportion of venereal disease victims fail to seek reliable treatment the menace to the public health is a serious problem. In the ferreting out of those in the community capable of spreading infection the doctors in every community have a large degree of responsibility. If any physician feels that his dignity or finer sensibilities will be degraded by contact or that he will suffer possible contamination by handling the victim of venereal disease, that physician should at least direct the poor victim into channels where proper treatment will be given.

Gonorrhea and syphilis are curable diseases if treatment is instituted at the very beginning of the disease and is persisted in. When the outward signs of these diseases have disappeared, treatment should be kept up just the same. Especially is this true of syphilis, for these lesions disappear rapidly under medication. Sufferers from venereal disease coming under the scrutiny of physicians should be impressed with the necessity of tabooing quacks, counter-prescribers and certain friends who always have a prescription handy with a claim that "this has relieved them." Venereal victims should avoid patent medicines and other drugs not prescribed by physicians who are familiar with the treatment of venereal disease. Unless these rules are adhered to cure cannot be expected.

The human family is the only one wherein prostitution is found. It is the only family wherein females are degraded to gratify the lustful desires of male morons.

When either the male or female prostitute is diseased he or she becomes a social avenger,

spreading venereal disease broadcast among the males on the part of the woman, and the females on the part of the men.

Aside from actual physical harm resulting from association with prostitutes, it may not be amiss to make casual mention of the timely old aphorism, "A man is known by the company he keeps." Those who associate and co-habit with these pitiful mental defectives are measured by the same yard stick.

"Birds of a feather flock together," is another tried and true maxim. Degeneracy as well as intellect seeks companionship of its own type. But even degeneracy is at times distasteful to itself as is evidenced by the incident related in the ditty about the man and the pig:

"On a cold day in December—

As near as I remember—

I was strolling down the street in all my pride;

My heart began to flutter,

I slipped into the gutter,

And a pig and I soon lay there side by side.

While I stretched out in the gutter,

With my heart all in a flutter,

A lady passing by was heard to say:

'You can tell a man who boozes

By the company he chooses,'—

And that pig got up, and eased himself away!"

The man who goes with a prostitute is no better than that woman. Sex gives him no privileges from a moral standpoint. These male degenerates are frequently repulsive to the very women whom they honor with their patronage. In other words, it is another case of the man, the gutter and the pig.

Society some day will be forced to rid itself of certain males who might aptly be called male prostitutes. Male prostitutes seek only to devour. All females are their prey. Not even the homes of supposedly decent people are safe from these vultures.

The only way to break a vicious circle is to destroy it. Constant vigilance, continual treatment, and ultimate prohibition,—more by individual education, rather than by statute,—would seem to be the practical method of checking mental defectiveness and destructive prostitution by

placing an entering wedge in the restraint and possible control of venereal disease.

SEX INDULGENCE AND HEALTH

Worship of the phallic symbol continues on the part of those moderns who maintain that health and sex indulgence must go hand and hand.

In these days of sex education it is odd indeed to hear made the statement that sexual intercourse is an essential of physical well-being, and that impaired health will result from a lack of sex indulgence. *Nothing can be farther from the truth.* Such holdings are merely propaganda from the moron, or mentally deficient type, uttered to bolster up pleas from this type to ensure an universal system of loose morality.

It is absolutely unnecessary for unmarried men to revel in sexual intercourse to maintain manly vigor. On the contrary, scientists have proven that to this end, *continence is helpful.*

In this connection the editor quotes his friend, and former associate, Dr. William T. Belfield, professor of genitourinary surgery, Rush Medical College, Chicago, Illinois. Excerpts are made from Dr. Belfield's essay, entitled, "The Sexual Necessity."

"That cohabitation is necessary to physical health, and that continence and health are incompatible is the comfortable creed of men addicted to promiscuous sexual indulgence; though such a man flies into a virtuous rage if his unmarried sister or daughter adopts his creed," says Dr. Belfield.

"It is only the other fellow's sister whose philanthropic interest in masculine health should be encouraged.

"Such statement is a transparent masque for the indulgence of the sexual appetite." Proceeding to enumerate the facts which have led physicians as a profession to deny that belief, in a lengthy array of arguments, Dr. Belfield proves his point, concluding with the statement, "For the reasons given it is quite evident that the young man's physical health is just as independent of cohabitation as is his sister's. It is unfortunate that the education of young men in sexual matters has been supplied so little by the honest counsel of honest fathers and physicians, and so largely by the dishonest advertisements of confidence operators masquerading as physicians, whose sole object is pecuniary

profit derived from abusing the ignorance of youth. Probably half the young men in the country have been at some time secretly terrified by reading in such advertisements that nocturnal seminal emissions are evidence of grave disease of the sexual organs, which will surely result in insanity. 'Loss of manhood,' and the like, unless the frightened youth employs the marvelous skill of the advertiser. Only physicians can appreciate this phase of the harm caused by mere lack of knowledge which could and should be supplied by fathers."

Dr. Belfield's arguments to prove his case are worth lingering over. Pursuing the partial quotation let it be noted:

"The first function of the reproductive organs is the reproduction, *not of the species, but of the boy himself, the rebuilding of the youth into a man.* The boy deprived by castration of these organs, before puberty never attains manhood. He becomes an overgrown child and fails to develop the distinctively masculine traits of body and mind. . . . His energy and vitality fail to attain the masculine standard. He becomes prematurely old. Until maturity is attained, until the regeneration of the individual is complete,—and this is usually after the twentieth year in our race and climate—there is little or no surplus of generative force over the requirements of the individual for the building of a new person,—his offspring. And herein lies the physical injury of precocious sexual indulgence, whether in natural or unnatural ways—the latter especially common among boys in their teens. . . . Only after the regeneration, the rebuilding of the youth into manhood is complete, has he a surplus of generative energy; and only thereafter may he without loss to himself, divert such surplus to the generation of a second person, through sexual union. . . .

"Many young men harbor the erroneous idea that the reproductive organs, like the muscles, are developed through exercise and become weak through disuse. If this were true, the boy, who exercises them regularly from his tenth year onward should have the greatest sexual power, but everyone knows the reverse of this is the truth. . . . Even though the man abstain from cohabitation for years, yet to the natural sexual stimulation, the organs respond with a profuse secretion. It is quite as impossible to lose the sexual power through neglect to exercise it, as to lose

the power to weep through abstinence from weeping.

"That cohabitation is, so far as mere physical health is concerned, *absolutely unnecessary, is easily shown.* The mere fact that the exemplars of physical prowess in all ages, including the Roman gladiators and modern pugilists, have commonly abstained from cohabitation during the long periods of strenuous training for the physical perfection essential to successful combat, is *expert evidence that sexual indulgence is not essential to supreme physical health.* It is notorious that the premature downfall of many professional pugilists of our day is due to excess with women and wine when they are not in training.

"Even in maturity the vital energy which may without loss be diverted from the individual to his offspring is merely the surplus above his own consumption. The amount of this surplus is naturally dependent largely upon the relation between income, or food, and expenditure or work. For illustration view the wild and domesticated duck. The wild duck, is a superb athlete and expends so much energy in maintaining life that his surplus generative force is exhausted by a few days of sexual indulgence each year, and with only one wife. He is a strict monogamist. On the other hand, his overfed domesticated cousin,—an animated garbage pail with only half the brain weight of the wild duck,—and who has abandoned the use of his wings as needless exercise, expends so little energy in maintaining his life of ease, that his surplus for reproduction makes him a continuous and shameful polygamist. So the man who works hard and eats little has relatively moderate sexual desires. The man who works little and eats hard is apt to be a polygamist in theory and secret practice.

"But the healthy man has no physical need of cohabitation because his surplus generative material, be it much or little, is discharged automatically in nocturnal seminal emissions. All of the functions essential to life—digestion, respiration, circulation, excretion,—are automatic processes, requiring no supervision by the intellect, and performed just as perfectly on the day of birth as at any subsequent time. While we acquire the ability to retard some of these functions slightly for our own convenience, yet they remain essentially automatic throughout life. . . . The automatic evacuation of the distended

urinary bladder occurs frequently during sleep throughout life and especially in childhood. The automatic evacuation of the distended seminal bladder occurs during sleep throughout life. This usually happens two to four times each month. It is analogous with the automatic discharge of surplus energy which occurs every three or four weeks in the female, and is called menstruation. . . .

"Now this 'loss of manhood' so dreadful to youth is caused never by lack of sexual indulgence but often by the abuses and diseases inseparable from promiscuous indulgence. Lifelong impotence and the barrenness of marriage are usually traceable to the venereal diseases."

The famous "Lord Kitchener of Khartoum" stressed the importance of continence among the British soldiers in the Orient. In his letter on this topic, which he insisted that each soldier must place in his "small book,"—the manual of instructions carried by the soldiers for constant reference the famous "K. K." said among other things:

"The common woman as well as the regular prostitutes in India are almost all more or less infected with disease. It is rife in the country and in the villages as well as in the towns. And it is only by avoiding altogether the many facilities for indulgence which India affords that men can be sure of remaining safe from infection. The danger is not merely limited to the venereal diseases—chancre, syphilis and gonorrhea. Numbers of cases have occurred in which soldiers have died of plague and smallpox contracted from native women. Such diseases when contracted by Europeans from natives of Asia or Africa are almost invariably fatal, for diseases passed on from one race of men to another, always increase in severity.

Similarly, syphilis contracted by Europeans from Asiatic women is much more severe than that contracted in England."

This last item is of interest. There is a fad among some perverts for patronizing brothels occupied by women of other races.

HEREDITY AND EUGENICS

Heredity and eugenics is one of the current and pertinent points of social and scientific consideration. Finesse in race selection is recommended for race supremacy.

In a discussion of the results of mating be-

tween superior, inferior and mediocre individuals, Dr. Davenport shows various poignant premises. Among these are statements that:

"With exceptional parents some of the offspring will be exceptional individuals, but also that, whatever the parentage, many individuals will be inferior in respect to many or even all essential characters, and these are known as degenerates.

"Animal breeding has two distinctly different objects, arrived at by almost opposite methods: (1) the promotion of a few exceptional individuals, like race horses and fancy stock generally; (2) the raising of the general average of the breed. In the first case, only exceptional individuals are used for breeding purposes. Some would imitate this procedure with humans, but Davenport holds that we secure the same results in a good degree through preferential mating. It is not true, as a rule, that people choose opposites. On the contrary, tall tends to marry tall, and short, short; musical, musical, and in like sequences.

"To go beyond this natural result of preferential mating, we should be obliged to apply to our marriage laws of the best people, such restrictions as would dangerously interfere with the deepest human instincts, in which attempts we should either fail, or else we should blot out of the race its choicest asset and most valuable character—love. The raising of the average may be attained by breeding from the few or by excluding the lower limits of the race. We can not exclude as widely as the animal breeder does, but we can aim at the absolute exclusion of the degenerate. Davenport sums up by saying that he can not approve the oft-proposed interference with the marriage relations of normal people. Any mistakes they make will be blotted out mechanically and will not permanently weaken the race, or greatly hamper it at any given moment. But he would deal differently with the criminal class and take every opportunity to eliminate them from the possibility of reproducing their kind when they are once adjudged to be degenerates.

A NEW GARMENT

"Eliza," said a friend of the family to the old colored washerwoman, "have you seen Miss Edith's fiance?"

Eliza pondered for a moment, then bent over the laundry tubs once more. "No ma'am," she said, "it ain't been in the wash yet."

ARE WE INVADED BY THE BOLSHIEVIKI ASKED GOVERNOR TEMPLETON OF CONNECTICUT?

THE MEDICAL LICENCING COMMITTEE NEED
NOT BE DOCTORS. VERY LIKELY THEY
WOULD HAVE BEEN LAWYERS. CERTAINLY THEY WOULD HAVE
BEEN POLITICIANS

The *Dearborn Independent*, December issue, 1923, contains an article entitled "Clean Up of Fake Doctors in Connecticut." The article is a detailed expose of the fake medical diploma ring in this country. It is the most clear cut expose of the fake medical diploma gang that we have read. Coming from the pen of a layman and published in a lay magazine having a weekly circulation of over 600,000 it is bound to have an immense influence in remoulding public opinion in a way that will help materially in the enactment of more stringent laws for the protection of the public against uneducated and unqualified medical practitioners.

We suggest that our readers procure a copy of the original article. This can be done by addressing the *Dearborn Independent*, Dearborn, Michigan. Price per copy 10 cents.

We quote a few excerpts of the article as follows:

Professor William P. Sachs, the Missouri educator who furnished the fake medical diploma ring with so many spurious high school certificates, believes there are 30,000 bogus doctors scattered over the United States. Discount this materially to allow for a stricken conscience; call the total number half that, as I have in a former article, and the situation is certainly no less appalling.

And a handful of unscrupulous men in St. Louis and Kansas City have made fortunes, hundreds of thousands of dollars, out of it all. Not out of dupes, for the taxi drivers, farmer boys, elevator conductors, clerks in offices or stores and the mass of other unskilled and often illiterate who took the short route to a doctor's degree, who bought these diplomas and paid to have their way to state licenses made easy, were never merely dupes; their eyes were open. Says Dr. Sachs, himself under indictment but intent on everything possible to right the wrong in which he has been a factor, "Soon after I became state examiner for Missouri I went to Chicago to attend a big examination for candidates who desired to enter medical colleges.

"There were six hundred taking this examination—at the Englewood High School in Chicago—and to learn what went on I sat in with the boys and took the examination. I went out to lunch with them and was accepted on such terms that they talked freely to

me. The examination took two days and by the end of the first I had discovered that fully fifty per cent of those answering questions were professional examination takers.

"Imagine my feelings when they told me they had been doing this sort of thing for years, to start on the road to medical practice an army of men too illiterate to pass a high school examination. I feel that at least half the Illinois entrance preliminary certificates are fraudulent, the examinations having been taken by a professional proxy. The certificates may be endorsed, signed and sealed by the proper authorities, but they are crooked, nevertheless.

TRICK PHOTOGRAPHS USED

Most states require a photograph of the applicant for medical license, but this presents no difficulty to the professional examination taker. He furnishes a trick photograph to be affixed to his application, an apparently perfectly good photograph but which has not been properly fixed and will fade out in sixty days or so. In the unlikely event of discovery of this in a state board's files the now-licensed doctor has but to furnish a photograph of himself and there is no way of knowing it different from the first.

When it comes to the bogus diplomas these fellows have sent broadcast over this country—and far outside—the plot really thickens. The diploma ring has put out fraudulent sheepskins bearing the names and seals of a dozen different medical colleges, of which only the St. Louis and Kansas City affairs were active.

Degrees from mythical school were issued without stint; they even went so far as to obtain diplomas of at least four reputable medical schools in different parts of the country—by corrupting individuals presumably. He characterizes Connecticut as the reservoir from which fake doctors could be distributed to other states. He speaks of how the law in Missouri was changed to make it easier for the crooked medical diploma ring to operate and that where before the enactment of the law they were obliged to coach candidates on two hundred and fifty or three hundred questions which included the sixty to eighty licensing boards might ask. That after the enactment of the law they were enabled to establish contracts which enabled them to get examination papers ahead of time and coach only on questions actually to be asked.

"I took forty-two boobs to Connecticut," Voight bragged to Sachs, "and paid five hundred dollars for an advanced copy of the questions and wrote the answers myself for the whole lot."

GOVERNOR'S NATURAL MISTAKE

Incidentally, the last examination of the Connecticut Eclectic Board was held July 11 and 12, 1923. Of the fifty-five candidates five were admitted to prac-

tice in Connecticut through reciprocity arrangements with other states, and thirty-one presented Kansas City diplomas. Among the fourteen scattering there may have been other fake diplomas. All but six of Dr. Alexander's thirty-one passed, and these have taken subsequent examinations and passed.

This Connecticut situation could easily have been foreseen. Scarcely a session of its legislature has been without validating acts making regular some doctor who wasn't up to standard. These have often been reported by the Judiciary committee rather than that on Public Health and Safety and their passage made a matter of politics. The chairman of the Joint Committee on Judiciary, lawyers, are always majority leaders of the Senate and House of Representatives.

Had it not been that the state has a governor now who is a straightforward man interested only in his state's welfare, twenty-three more of these "doctors" would have been validated in one lot by the legislature which rose last June.

Both houses passed the bill, reported at the end of the session, and Governor Templeton vetoed it by a pocket veto. The legislative machine could have passed it over his veto, as it had others, but the legislature had adjourned and he had only to refrain from signing it for the measure to die. He couldn't see why men who had failed to pass examinations for license or doubted if they could or had some blot on their records should be legitimized by act of the legislature.

Can you?

"Are we invaded by the Bolsheviks?" asked Governor Templeton of his executive secretary shortly before adjournment. He had seen in the capitol corridors *foreign-looking men, wearing tall hats but with days' growths of beard and hands and finger nails not over clean. That part of their conversation he had heard was in guttural and broken English.*

"Don't you know who those are, Governor?"

"No."

"They're the men who are interested in that eclectic validating act," said the executive secretary.

BILL FAILS ON POCKET VETO

At the same time there came out of the same committee a measure reorganizing the Connecticut department of health, a new medical practice act which placed the licensing of doctors in the hands of a commission consisting of five members of the legislature.

They need not be doctors. Very likely they would have been lawyers. Certainly they would have been politicians. In any case, they would not necessarily have had expert knowledge of medicine or medical practice or medical ethics.

An advisory board from each of the three schools of medicine, allopathic, homeopathic and eclectic, would pass upon candidates, as now, but with no power to admit or reject them. The licensing would be in the hands of the commission alone. Physicians of highest repute about the state favored this plan—and so did the same men who favored the eclectic validating act. *The Republican leader of the House was an es-*

pecially strong supporter of the new medical practice act. Both houses passed this bill, also.

Yet do you think any five laymen competent to pass on the qualifications of the physician into whose keeping you may later give your life and the lives of your dear ones?

Governor Templeton didn't, and this measure, too, received a pocket veto. An awful howl went up, but he had done something for mankind.

THE PEOPLE OF THE STATE OF ILLINOIS,
APPELLEE, v. ROBERT E. SCHAEFFER,
APPELLANT.

Mr. JUSTICE DUNCAN delivered the opinion of the court:

The municipal court of Chicago rendered a judgment of \$100 in favor of appellee, the People of the State of Illinois, for the use of the Department of Registration and Education, against Robert E. Schaeffer, appellant, in an action of debt in a trial before the court without a jury. The statement of claim charged the violation of the Medical Practice act of 1899, section 9 of which provides: "Any person practising medicine or surgery or treating human ailments in the State without a certificate issued by this board in compliance with the provisions of this act * * * shall, for each and every instance for such practice or violation, forfeit and pay to the People of the State of Illinois, for the use of said board of health, the sum of \$100 for the first offense and \$200 for each subsequent offense, the same to be recovered in an action of debt," etc.

The two defenses made before the municipal court were, first, that appellant's act, which he conceded to be practicing surgery without a license so to do, is not penalized by the statute; and second, that Medical Practice act of 1890, and particularly sections 2, 3 and 7 thereof, are invalid or unconstitutional,—which latter defense was specifically set up by his affidavit of defense. The appeal is therefore direct to this court.

The facts constituting the violation of the statute, briefly stated, are, that in February or March, 1921, in the city of Chicago, appellant treated Mrs. Blanche Mehlen for a uterine hemorrhage. In the operative work he performed on Mrs. Mehlen he used a vaginal speculum, a vaginal bracing forceps, a curette, and an electric light. He removed a couple of clots of blood out of the cervix inside of the uterus but did not make a complete curettage. He directed the attending nurse to cleanse the external parts and the parturient canal with antiseptics.

As section 9 of the act imposes a penalty upon any person practicing surgery without such certificate the appellant is within the prohibition of the statute, and the judgment must stand unless his second claim that the statute denies to him a constitutional right is maintained.

Section 2 of the act of 1899 is as follows: "No

person shall hereafter begin the practice of medicine or any of the branches thereof, or midwifery, in the State without first applying for and obtaining a license from the State Board of Health to do so. Application shall be in writing and shall be accompanied by the examination fees hereinafter specified, and with proof that the applicant is of good moral character. Applications from candidates who desire to practice medicine and surgery in all their branches, shall be accompanied by proof that applicant is a graduate of a medical college or institution in good standing, as may be determined by the board. When the application aforesaid has been inspected by the board and found to comply with the foregoing provisions, the board shall notify the applicant to appear before it for examination, at the time and place mentioned in such notice.

"Examinations may be made in whole or in part in writing by the board, and shall be of a character sufficiently strict to test the qualifications of the candidate as a practitioner. The examination of those who desire to practice medicine and surgery in all their branches shall embrace those general subjects and topics a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine, by reputable medical colleges in the United States. The examination of those who desire to practice midwifery shall be of such a character as to determine the qualifications of the applicant to practice midwifery. The examination of those who desire to practice any other system of science of treating human ailments who do not use medicines internally or externally and who do not practice operative surgery shall be of a character sufficiently strict to test their qualifications as practitioners.

"All examinations provided for in this act shall be conducted under rules and regulations prescribed by the board, which shall provide for a fair and wholly impartial method of examination: Provided, that graduates of legally chartered medical colleges in Illinois in good standing as may be determined by the board may be granted certificates without examinations."

The material parts of sections 3 and 7 of said act, so far as applicable to this case, are the following:

"Sec. 3. If the applicant successfully passes his examination, or presents a diploma from a legally chartered medical college in Illinois of good standing, the board shall issue to such applicant a license authorizing him to practice medicine, midwifery or other system of treating human ailments, as the case may be: Provided, that those who are authorized to practice other systems cannot use medicine internally or externally or perform surgical operations: Provided further that only those who are authorized to practice medicine and surgery in all their branches shall call or advertise themselves as physicians or doctors: And provided further, that those who are authorized to practice

midwifery shall not use any drug or medicine or attend other than cases of labor."

"Sec. 7. Any person shall be regarded as practicing medicine, within the meaning of this act, who shall treat or profess to treat, operate on or prescribe for any physical ailment or any physical injury to or deformity of another: Provided, that nothing in this section shall be construed to apply to the administration of domestic or family remedies in cases of emergency, or to the laws regulating the practice of dentistry or of pharmacy. And this act shall not apply to surgeons of the United States army, navy or marine hospital service in the discharge of their official duties, or to any person who ministers to or treats the sick or suffering by mental or spiritual means, without the use of any drug or material remedy."

On the second point raised by appellant, his testimony and the testimony of Dr. George A. Still established, without contradiction, the following facts: Appellant entered the American School of Osteopathy, at Kirksville, Missouri, in which Still was professor of surgery and chief surgeon of its hospitals, on January 29, 1911, and completed the four-year course of that institution in January, 1915, and received the degree of Doctor of Osteopathy. His course of studies embraced surgery, which he studied during the last two years of his attendance in said school, and also embraced the subjects of obstetrics and gynecology. The text books on surgery that are used and taught at the school are the same text books that are used and taught at all modern schools that teach the doctrine of healing by the use of drugs and medicines or the modern schools of the allopaths, who ordinarily style themselves "The Regulars," to-wit: The text books of Rose-Carless, Buck and Bryant, Whorton, DaCosta, Foote, Lovett and Young. Surgery is taught and practiced in the same manner at said school as it is taught and practiced in the modern schools of the Regulars and by their graduates, and the course of surgery in the school is as thorough and as complete as it is in such modern schools. This was positively testified to by Dr. Still, who is himself a graduate from Northwestern Medical College of Chicago and who by investigation has ascertained such facts. The evidence specifically said that appellant in his course aforesaid studied and passed courses in anatomy, histology, general and physical chemistry, physiology, bacteriology, organic and physiological chemistry, embryology, demonstrative anatomy, pathology, hygiene, public health, dietetics, toxicology, dissection, regional and applied anatomy, physical diagnosis, neurology, special pathology, general surgery, eye, ear, nose and throat, obstetrics, clinical practice, skin and venereal disease, pediatrics, operative surgery, gynecology, laboratory diagnosis and also osteopathic therapeutics, to-wit, the principles of osteopathy, practice of osteopathy, osteopathic mechanics and osteopathic clinics. This course includes the subjects taught by medical schools in good standing except

the therapeutics of those schools and materia medica. Appellant's education and training necessarily embraced the study of various drugs that are used in connection with surgical operations such as disinfectants, antiseptics, narcotics, etc., and other drugs or medicines applied externally. After graduating from the Kirksville school appellant began practice in Minnesota as an osteopath until he went into the army, in June, 1918. He was in the rehabilitation or development department of the army for six months, after which he returned to his practice in Minnesota. He was licensed as an osteopath in Illinois on November 17, 1920, by reciprocity as to the written part and by examination as to the practical. He attended high school in his home town for two years and thereafter entered the Leander Clarke College at Toledo, Ohio, and left there in 1911. He has a degree of Bachelor of Arts as well as of Doctor of Osteopathy and a special diploma for a fellowship in bacteriology from the American School of Osteopathy.

It is not the claim of the People that appellant was not competent to perform the operation that he did perform on Mrs. Mehlen, or that he did not perform it in the same manner and by the same means as it would have been performed by any physician and surgeon licensed to practice medicine and surgery in all their branches under the act aforesaid. There is no complaint of the results obtained by this operation. The simple charge and claim of the People is that he violated the statute by performing the act of surgery without the certificate or license required by the Act. Appellant's claim is that the act of 1899 is void because it discriminates against applicants for license to treat human ailments in this State who are educated and are graduates in osteopathy, and in favor of those who are educated in medicine and surgery in the medical colleges, and that the act is therefore in contravention of the constitution of this State and also of the Federal constitution. Appellant also contends that the Medical Practice act of 1917 was in substance and in fact declared void by the decision of this court in the case of *People v. Love*, 298 Ill. 304. This position or contention is questioned by the People in this case. In that case the act of 1917 was declared void as to those who practice any system of treating human ailments without the use of drugs, or medicine and without operative surgery. The question now before us is whether or not the act of 1899 is binding on appellant.

Under the definition of practicing medicine, as given in section 7 of the act, an osteopath, or anyone practicing in the various branches of osteopathy, is practicing medicine when he treats or professes to treat, operates on or prescribes for, any physical ailment or any physical injury to or deformity of another, yet he cannot practice surgery in Illinois under the provisions of the act, or be examined for license to do such practice, unless he is a graduate of a medical college or institution in good standing, no matter how great may be his at-

tainments in this branch of the treatment of human ailments or how high the standard of the school in which he received his surgical training. Sections 2 and 3 of the act specifically provide that no applicant can be permitted to take an examination to practice medicine and surgery in all their branches, or be permitted to practice medicine and surgery in all their branches, unless he is a graduate of a medical college in good standing, as may be determined by the board. The second sentence of the second paragraph of section 2 indicates clearly that such candidates or applicants for license must be graduates of a reputable medical college or colleges in the United States that teach the practice of medicine and surgery by the use of drugs and medicines and surgical instruments, which colleges do not, as is well known, teach any other system of healing, particularly the system of healing as taught and practiced by osteopaths and the various branches of that system. It is, perhaps, also true that nine out of every ten of such medical colleges teach and practice the system commonly known as allopathy, whose practitioners style themselves "The Regulars." At any rate, it is made clear by the provisions of sections 2 and 3 that one who is licensed to practice medicine and surgery in Illinois in all their branches under this statute is licensed and authorized to practice medicine, midwifery and surgery in all their branches and in all the systems of treating human ailments, including the system taught by osteopaths, without being required to be a graduate of a school of osteopathy, or even to study the principles or the system of osteopathy. This is made clear also by the first sentences of sections 3 and 7. Under the definition given in section 7 there can be no doubt that the words "medicine and surgery in all their branches," as used in section 2, mean medicine and surgery as taught and practiced by allopaths, homeopaths, eclectic, osteopaths and all other known practitioners treating human ailments, and that one who is licensed to practice medicine and surgery in all their branches is licensed to practice all of said systems. There is no provision in this act whereby a graduate of a college of osteopathy may be licensed to practice osteopathy and surgery, including midwifery, or whereby he may be examined to practice the same, unless he is also a graduate of one of the medical schools aforesaid. He cannot practice osteopathy in Illinois unless he be examined under the provisions of this act, although he may be a graduate of a reputable college in Illinois in good standing that teaches the system of osteopathy. A graduate of a medical college of Illinois in good standing, as determined by the board, may practice medicine and surgery in all its branches without having to take an examination. The act does not even indicate in any manner the subjects upon which an osteopath must be examined to practice osteopathy. His examination for such practice "shall be of a character sufficiently strict to test

their qualifications as practitioners," and his entire examination is at the pleasure of the board, while the character of the examination of a student of medicine is sufficiently indicated and specified by the act. The act even assumes that the osteopath does not use medicines of any kind externally and does not study or practice operative surgery. This record shows that osteopaths have, and particularly the appellant has had, training and education in the practice of surgery and obstetrics equal to that of graduates of the medical colleges, and that osteopaths are taught in their schools to administer certain drugs or medicines externally. To make the discrimination against osteopaths and their humiliation complete, section 3 of the act provides that only those who are authorized to practice medicine and surgery in all their branches shall call or advertise themselves as physicians or doctors.

We think there can be no question whatever that this statute discriminates against appellant as an osteopathic physician and in favor of the graduates of the medical schools, as contended by him. It requires him or a graduate of his school, after spending four years in such graduation, to continue his college education for a further time and perhaps four years longer until he has become a graduate of a medical school, before he can even be permitted to be examined for license to practice osteopathy and surgery, while a graduate of a medical college is permitted, without further study, to practice medicine and surgery. In the second place he is required to study the therapeutics of the allopaths or other medical schools which he does not desire to use in his practice before he can practice osteopathy and surgery, while the graduate of a medical school is not required to graduate in osteopathy or to study osteopathic therapeutics, and yet he may be licensed to practice and may practice osteopathy. In the third place, if an osteopath attends a medical college for the purpose of graduation, the probabilities are that he will be required to repeat in the medical college the study of all those subjects, including surgery, midwifery and gynecology, and all the other studies that we have above enumerated as having been passed by him in his own school, before he can begin the practice of surgery. The very great prejudice existing among many physicians of the medical schools against the osteopaths, and of the osteopaths against those of the medical schools, is well known. This statute recognizes both systems as meritorious because it allows both to treat human ailments according to their system, and it discriminates against the osteopaths and seems to place the examinations of osteopaths to practice osteopathy entirely at the will and discretion of a medical board, as no one other than those educated in the medical system are qualified, under the act, to conduct the examinations provided for by it. This statute therefore tends to deprive the osteopaths of their constitutional right to practice surgery, who are, so far as this record shows, just as efficient and

as well prepared by college and hospital training to practice surgery as are the physicians of the medical schools. The act is therefore void as to such physicians so deprived.

We are only concerned with the question whether this act is unconstitutional by reason of unlawful discrimination, as charged. As we have previously said in other cases, we have no leaning for or against either system or either practitioner. It has been demonstrated over and over again that there is merit in both systems, and neither should be unjustly penalized by statutes which permit unlawful discrimination. This statute is in contravention of the fourteenth amendment of the Federal constitution, which provides that no State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, nor shall any State deprive any person of life, liberty or property without due process of law, nor deny to any person within its jurisdiction the equal protection of the law. It also violates the provisions of our bill of rights that no person shall be deprived of life, liberty or property without due process of law, and that no law impairing the obligation of contracts or making any irrevocable grant of special privileges or immunities shall be passed. In the passage of this statute the legislature evidently overlooked the fact that it discriminates against osteopaths, as already shown. It is a fundamental principle of this government that its people have the right to make constitutions that will guard them against the tyranny of statutes that permit unlawful discrimination, however innocently or inadvertently made, and courts are required to regard their constitutional oaths and declare every such statute void when it conclusively appears that such act is unconstitutional.

Our attention has been called to the fact by the People in this case that said act has been held constitutional in the case of *People v. Gordon*, 194 Ill. 560, and cases there cited. In those cases no question of discrimination between the various systems of the practice of medicine or of healing was raised and they are not decisive of the issues raised in this case. We place this decision, however, on the distinct ground that the act is clearly shown to be invalid as to those who are denied their constitutional rights and that the issues here involved were not involved or passed on in the cases referred to. We are to be further understood as holding that this act is merely void as to those persons who are denied constitutional rights, and that neither this decision nor the decision in the *Love* case in any way affects the legality of any license issued under any medical practice act of this State.

For the foregoing reasons the judgment of the municipal court is reversed.

Judgment reversed.

Farmer, C. J., and Thompson, J., dissenting.

CANDIDATES FOR LEGISLATURE

Candidates for legislative nomination from Cook county district follow:

State Senate

SECOND DISTRICT—Republican: George Van Lent, 1611 W. Jackson boulevard; William M. Garrison, 16 North Wood street. Democratic: Jerry F. Leahy, 1419 West Congress street; John F. Cribben, 2720 West Sixteenth street; Harry McGeean, 2024 West Thirteenth street; Abraham Yarmo, 828 South Paulina street; Edward B. O'Shea, 2215 West Thirteenth street; Leo V. Roeder, 2152 Roosevelt road. Socialist: John E. Mahoney, 919 South Western avenue.

THIRD DISTRICT (to fill vacancy)—Republican: Adelbert H. Roberts, 3405 Calumet avenue.

FOURTH DISTRICT—Republican: Robert W. Schulze, 5420 South Artesian avenue; Max Schraeder, 4830 South Hermitage avenue; Joseph Michlaski, 4930 South Hermitage avenue. Democratic: Frank McDermott, 1552 West Garfield boulevard; Thomas Lynch, 5038 South Elizabeth street; John Buerkle, 5352 South Marshfield avenue. Socialist: Richard A. Berger, 5115 South Robey street.

SIXTH DISTRICT—Republican: James J. Barbour, 5 North La Salle street; Dwight J. Anderson, 7033 Sheridan road. Democratic: Joseph A. Weber, 3134 North Robey street. Socialist: Charles Lorch, 2104 Waveland avenue.

State Representatives

Following are the candidates for state representative in the Cook county districts:

FIRST DISTRICT—Republican: Sheadrick B. Turner, 21 East Twenty-eighth street; Charles A. Griffin, 3111 Ellis avenue; William H. Clark, 3243 Ellis avenue; Harris B. Gaines, 3262 Vernon avenue; Charles McKinley Hagen, 213 East Eighteenth street; Jacob Tipper, 3116 Indiana avenue; George H. Fischer, 2531 State street. Democratic: John Griffin, 2020 Indiana avenue. Socialist: James McNulty, 551 East Thirty-first street.

SECOND DISTRICT—Republican: Peter S. Krump, 1700 Washburne avenue; Leo J. Radzwill, 1907 West Thirteenth street. Democratic: Harry C. Van Norman, 129 South Honore street; Frank Ryan, 2139 West Thirteenth street; Harry C. Ginsberg, 1531 West Thirteenth street; Maurice Klein, 1135 South Ashland boulevard; Earle Schapiro, 1758 West Fourteenth street; Abe Salitsky, 1307 South California avenue; Louis Drucker, 8115 South Ashland boulevard; Andrew Insulato, 839 Garibaldi place; Maurice C. Gault, 411 South Marshfield avenue; William J. Riordan, 2105 Grenshaw street; Philip Harry Ginsberg, 722 South Marshfield avenue; Norton M. Lewis, 801 South Ashland avenue. Socialist: Harry N. Aldrich, 309 South Ashland boulevard.

THIRD DISTRICT—Republican: George T. Kersey, 656 Bowen avenue; Gus Kellberg, 462 West Twenty-sixth street; William E. King, 449 East

Forty-first street; Robert B. De Priest, 3815 Vernon avenue; John H. Hyers, 4005 Grand boulevard; Warren B. Douglas, 596 East Thirty-sixth street; William Lloyd Jenkins, 3547 Grand boulevard. Democratic: George Garry Noonan, 3020 Parnell avenue, John P. Wilson, 3144 Lowe avenue.

FOURTH DISTRICT—Republican: Arthur J. Rutshaw, 835 West Fiftieth street; John A. Marston, 822 W. Fifty-fifth street; Elmer N. Holmgren, 5416 South La Salle street; Robert J. Thompson, 510 West Forty-third street; P. J. Looby, 608 West Forty-seventh street; Nathaniel C. Chalmers, 5058 South State street; William C. Zippman, 5242 South Ashland avenue. Democratic: James P. Boyle, 729 West Fifty-fourth place; Thomas J. O'Grady, 835 West Fifty-fourth place; Joseph Palka, 2103 West Fifty-first street; Michael Ruddy, 1716 West Fifty-first street; John C. Kluczynski, 4958 South Hermitage avenue; William J. Barsfield, 508 Root street; John Gobaczuk, 1522 West Fifty-first street. Socialist: Edwin A. Eshelman, 4234 South Mozart street.

FIFTH DISTRICT—Republican: William M. Brinkman, 1029 East Forty-sixth street; Sidney Lyon, 5250 South Michigan avenue; William M. Riley, 4517 Calumet avenue; George C. Adams, 4410 Vincennes avenue. Democratic: Thomas F. Reilly, 7049 St. Lawrence avenue; John F. Healy, 6120 Rhodes avenue; Joseph M. Cusick, 6044 Stony Island avenue. Socialist: Bernard Berlyn, 6044 Prairie avenue.

SIXTH DISTRICT—Republican: Ralph E. Church, 300 Church street, Evanston; John W. Gibson, 1901 Warner avenue; William M. Brown, 2161 Eastwood avenue. Democratic: Charles H. Weber, 2924 Southport avenue; George H. Moloney, 1251 Columbia avenue; August Groja, 2913 North Seeley avenue; Thomas A. Spellman, 1328 Nelson street. Socialist: Emma Draut, 4913 North Robey street.

SEVENTH DISTRICT—Republican: Howard P. Castle, Barrington; Lewis B. Springer, Wilmette; W. Scott Hodges, River Forest; Arthur A. Huebsch, Congress Park. Democratic: John W. McCarthy, Lemont; William C. Connor, Wilmette. Socialist: William E. Smith, Harvey.

NINTH DISTRICT—Republican: David E. Shanahan, 115 S. Dearborn street; William A. D. Allen, 2101 West Nineteenth street. Democratic: Joseph Placek, 2347 South Kedzie avenue; William J. Gormley, 3543 South Hamilton avenue; Max T. Razniewski, 3038 West Twenty-sixth street; Charles A. Rutledge, 3435 South Paulina street; Joseph Dropski, 3400 South Ashland avenue; Edward Weiner, 3305 South Hoyne avenue; Leo J. Szemocki, 3206 Wall street; Joseph M. Donohue, 3712 Parnell avenue; Thomas A. Brankin; 2941 Elios court; Samuel Rinkus, 913 West Thirty-fifth place; John Szmanske, 3609 South Wood street; Adam Danuska, 3562 South Halsted street; John J. Donagala,

3152 Mosspratt street. Socialist: Frederick G. Wellman, 3252 South Oakley avenue.

ELEVENTH DISTRICT—Republican: David I. Swanson, 6915 South Green street; William H. Cruden, 10204 Wallace street; Walter R. Miller, 9412 Vanderpoel avenue; Elbert E. Elmore, 1256 West Sixty-fourth street; Albert E. Beath, 6817 South Union avenue; David A. Wyatt, 5821 South Grove avenue. Democratic: George A. Fitzgerald, 7225 Perry avenue; John M. Lee, 6920 South Carpenter street; Edward J. Degnan, 6645 South Artesian avenue; Robert Emmet Lynch, 5502 South Halsted street. Socialist: Henry Groenier, 6447 South May street.

THIRTEENTH DISTRICT—Republican: Elmer J. Schnackenberg, 7435 Clyde avenue; Theo. D. Smith, 1431 East Marquette road; J. B. Aring, Jr., 453 West 118th street; C. A. Young, 7531 Coles avenue; Walter R. Starr, 934 East Seventy-fifth street; Kathryn H. Rutherford, 7715 Prairie avenue; Walter Kraft, 9819 Ewing avenue. Democratic: William W. Powers, 3226 East Ninety-second street; Chester W. Kubacki, 10549 Corliss avenue; James J. Laughlin, 7531 Cottage Grove avenue. Socialist: Harry G. Forsberg, 242 West 113th street.

FIFTEENTH DISTRICT—Republican: Thomas Curran, 1847 South Ashland avenue. Democratic: Joseph Ferina, 1800 Fisk street; Matt Franz, 1700 South Halsted street; Stephen F. Muchowski, 1646 West Twenty-first place; Joseph Szymanski, 1751 West Nineteenth street; Frank K. Szarkowski, 1945 West Twenty-second street.

SEVENTEENTH DISTRICT — Republican: William V. Pacelli, 771 DeKoven street; Henry J. Spingola, 750 West Taylor street. Democratic: Jacob W. Epstein, 820 Roosevelt road; Charles Coia, 823 Forquer street; Thomas F. Frole, 1140 Taylor street; Nick Dire, 1225 West Congress street; Alexander Williams, 1428 West Fourteenth place. Socialist: Henry C. Stockbridge, 767 West Van Buren street.

NINETEENTH DISTRICT — Republican: Charles E. Marinier, 114 South St. Louis avenue; Maxwell Landis, 3625 Douglas boulevard; Harry I. Weisbrod, 3339 Douglas boulevard; Edward J. Cerny, 1647 South Austin boulevard. Democratic: Walter Francis Gallas, 2715 South Tripp avenue; John R. McSweeney, 316 South Springfield avenue; John T. Conley, 106 South Crawford avenue; Thomas L. Long, 4508 West Washington boulevard; Louis J. Sup, 1304 South Fifty-eighth avenue, Cicero; Edgar H. Smullen, 2417 West Congress street; Rudolph J. Horky, 5139 West Twenty-fourth street, Cicero. Socialist: Morris Seskind, 1619 South Central Park avenue.

TWENTY-FIRST DISTRICT — Republican: William F. Daley, 3629 West Huron street; Frederick J. Bippus, 4908 West Huron street; Harold M. Beach, 4806 Park avenue; Joseph A. Percaro, 648 North Talman avenue; Robert M. De Salvia, 624

North Christiania avenue; Andrew C. Knudson, 519 West Morgan street. Democratic: Benjamin M. Mitchell, 110 South Dearborn street; Michael F. Maher, 2233 West Superior street; Peter Wojciechowski, 1438 Fry street; John Duda, 1247 Fry street. Socialist: H. W. Harris, 3618 Franklin boulevard.

TWENTY-THIRD DISTRICT—Republican: William G. Thon, 2210 Cortez street; Edward M. Overland, 3228 Hirsch street; Fred J. Steuber, 944 North Drake avenue; J. Walter Lindholm, 928 North Massasoit avenue; Henry A. Kopp, 1505 North Mayfield avenue; Charles A. Mugler, 3210 Cortez street. Democratic: Fred W. Hrdlicka, 2440 Iowa street; Matt Tychsen, 1417 North Austin boulevard; Hyman A. Pierce, 1451 North Fairfield avenue; Arthur B. Tronsen, 1713 Julian street; Frank DeLaby, 1030 North Marshfield avenue; Fred R. Stelnicki, 1016 North Hoyne avenue; James Reardon, Jr., 848 North Waller avenue; Andrew C. Bisek, 2201 Cortez street. Socialist: Leon J. Ell, 924 North Hoyne avenue.

TWENTY-FIFTH DISTRICT—Republican: Theodore R. Steinert, 2112 Powell avenue; John Paul, 4044 North Kimball avenue; Charles L. Fieldstack, 4016 North Harding avenue; William A. Schlupp, 1615 Meade avenue; Feliks Wenatowicz, 3627 North Kedvale avenue. Democratic: John G. Jacobson, 2901 North Rockwell street; Robert A. Rolfe, 2440 North Harding avenue; Roland A. Blaylock, 6158 Bryon street. Socialist: Bernard Kortas, 4226 North Central Park avenue.

TWENTY-SEVENTH DISTRICT—Republican: Albert Rostenkowski, 1237 Noble street; Thaddeus Kotlowski, 662 Fay street; Larry Busalachi, 824 West Austin street. Democratic: William Lipke, 2114 North Lincoln street; A. L. Auth, 1100 West Van Buren street; Adam Kywicki, 947 West Huron street; Ignatz Stankiewicz, 1024 Noble street; Stanley J. Mistelski, 1182 Milwaukee avenue; Frank P. Suchomski, 1257 Noble street; Anton J. Kortas, 1441 West Blackhawk street. Socialist: Henry Finkelstein, 1544 Tell place.

TWENTY-NINTH DISTRICT—Republican: Michael H. Durso, 1012 Milton avenue; Ernest W. Turner, 819 North Wells street; Charles F. Blaine, 6 North Illinois street. Democratic: Lawrence C. O'Brien, 1216 North Dearborn street; Louis Torre, 537 North Franklin street; Anthony Baynes, 876 North Franklin street. Socialist: Florence Hall, 63 West Ontario street.

THIRTY-FIRST DISTRICT—Republican: Carl Mueller, 2142 Lincoln Park west; George A. Williston, 1245 Early avenue; George L. MacFarlane, 2122 Larrabee street; Roy Juul, 6304 Magnolia avenue; Charles J. Peek, 2256 Lincoln avenue; Sigismund Fischer, 317 Star street; John Alger, 1519 North Dearborn parkway. Democratic: James J. O'Toole, 1707 Crilly court; Frank J. Bell, 6330 Lakewood avenue; Pierce L. Shannon, 927 Buena avenue. Socialist: Gustav Johnson, 1508 Hudson avenue.

SECTION No. 2

These are the candidates for state senator in the districts outside of Cook county:

State Senator

EIGHTH DISTRICT—Republican: Charles M. Eldredge, Richmond; Rodney B. Swift, Lake Forest; Leslie N. George, Waukegan. Democratic: Charles J. Wightman, Grays Lake; Myron A. Cole, Belvidere.

TENTH DISTRICT—Republican: H. S. Hicks, Rockford; Charles W. Baker, Monroe Center.

TWELFTH DISTRICT—Republican: John D. Turnbaugh, Mount Carroll; Joseph L. Meyers, Sciota Mills. Socialist: August Walter Hattendorf, Freeport.

FOURTEENTH DISTRICT—Republican: Harold C. Kessinger, Aurora. Democratic: John A. Logan, Elgin. Socialist.

SIXTEENTH DISTRICT—Republican: Simon N. Lantz, Congerville; John E. Shackelton, Cornell. Democratic: Christian Haase, Dashburn; Henry A. Foster, Fairbury; Willis H. Shaw, Odell.

EIGHTEENTH DISTRICT—Republican: John Dailey, Peoria; Harry L. Donaldson, Peoria; T. Edward Burroughs, Peoria. Democratic: William V. Tefft, Peoria; John E. Dempsey, Peoria.

TWENTIETH DISTRICT—Republican: Richard H. Meents, Ashkum; L. S. Holderman, Morris.

TWENTY-SECOND DISTRICT—Republican: Martin B. Bailey, Danville; Henry B. Downs, Danville. Democratic: Kyle E. Rowend, Fairmount.

TWENTY-FOURTH DISTRICT—Republican: Henry M. Dunlap, Savoy; George N. Davis, Champaign. Democratic: Charles J. Mullikin, Champaign.

TWENTY-SIXTH DISTRICT—Republican: Frank O. Hanson, Bloomington; Florence Fifer Bohrer, Bloomington. Democratic: George E. Dooley, LeRoy.

TWENTY-EIGHTH DISTRICT—Republican: Jesse L. Deck, Decatur; T. C. Buxton, Decatur; John Bedinger, Clinton; Robert G. Williams, Decatur. Democratic: Cyrus J. Tucker, Decatur. Socialist, William R. Sinclair, Decatur.

THIRTIETH DISTRICT—Republican: Frank J. Wilkins, Pekin. Democratic: Ben L. Smith, Pekin; Walter I. Manny, Mount Sterling.

THIRTY-SECOND DISTRICT—Republican: John S. Brown, Monmouth; Isaac N. Willis, Monmouth. Democratic, Arthur Taylor, Roseville.

THIRTY-FOURTH DISTRICT—Republican: John R. Hamilton, Mattoon; Charles A. Shuey, Charleston; Freeman Johnson, Charleston. Democratic: Robert Howard, Mattoon.

THIRTY-SIXTH DISTRICT—Republican: William S. Gray, Coatsburg; Roy D. Johnson, Quincy; C. N. Anderson, Quincy. Democratic: Charles R. McNay, Ursa; Henry Bowers, Pittsfield.

THIRTY-EIGHTH DISTRICT—Republican: Andrew S. Cuthbertson, Bunker Hill. Democratic: J. B. Vaughn, Carlinville. Socialist: Thomas C. Roberts, Staunton. Farmer-Labor: John Luscher, Mt. Olive.

FORTIETH DISTRICT—Republican: James H. Forrester, Taylorville; U. G. Ward, Shelbyville. Democratic: A. L. Yantis, Shelbyville.

FORTY-SECOND DISTRICT—Republican: Erastus D. Telford, Salem; G. N. Bruce Welch, Carlyle; Herman R. Scherbarth, Effingham. Democratic: George I. Danks, Edgewood. Socialist: Joseph Globig, Beckemyer. Farmer-Labor: H. W. Olinger, Odin.

FORTY-FOURTH DISTRICT—Republican: Thomas B. F. Smith, Carbondale; Harry Wilson, Pinckneyville.

FORTY-SIXTH DISTRICT—Republican: Charles L. Wood, Keenes. Democratic: H. H. Burgess, Fairfield. Socialist: Charles Honey, Newton.

FORTY-EIGHTH DISTRICT—Republican: Nathan E. Smith, Albion; Mrs. May Gaddis Seiler, R. F. D. No. 5, Mt. Carmel. Democratic: Lyman W. Emmons, Lawrenceville; Porter Kinney, Crossville. Socialist: William H. Spaulding, Lawrenceville.

FIFTIETH DISTRICT—Republican: Wm. J. Sneed, Herrin; C. S. Miller, Mound City; William H. Penrod, Seigler. Democratic: Robert E. Jacoby, Johnston City.

SECTION No. 3

NOTE: These are candidates for representative in the districts outside of Cook county:

Representatives

EIGHTH DISTRICT—Republican: William F. Weiss, Waukegan; Charles H. Francis, Woodstock; F. W. Ackerman, Crystal Lake; N. L. Jackson, Belvidere; James Monroe Gunthorp, Barrington. Democratic: Thomas E. Graham, Ingleside; Charles F. Hayes, Harvard; John L. McCabe, Harvard. Socialist: Murray J. Hammond, Belvidere.

TENTH DISTRICT—Republican: David Hunter, Jr., Rockford; James Nichols, Polo; Emmet F. Wilson, Rockford; Leroy N. Green, Rockford. Democratic: Tirrie O. Prather, Plainfield. Socialist: Laura Butterfield, Chana.

TWELFTH DISTRICT—Republican: Al N. Stephan, Freeport; John Acker, Savanna; Alfred S. Babb, Shannon; Robert Irwin, Mt. Carroll. Democratic: Charles D. Franz, Freeport; W. G. Milner, Freeport. Socialist: Shepard Henry Zimmerman, Freeport.

FOURTEENTH DISTRICT—Republican: Frank A. McCarthy, Elgin; John M. Peffers, Aurora; Ralph H. Hoar, Elgin; John P. Hart, Aurora. Democratic: David M. Flynn, Geneva. Socialist: Mary G. Snover, Aurora.

SIXTEENTH DISTRICT—Republican: Charles E. Turner, Wenona; Calistus A. Bruer, Pontiac; H.

A. Miller, R. F. D. 1, Streator; J. F. Schureman, Lacon. Democratic: Michael Fahy, Toluca; D. J. Foley, Cornell; Frank A. Barr, Lacon.

EIGHTEENTH DISTRICT—Republican: Robert Scholes, Peoria Heights; Max R. Broderic, Peoria; Sherman W. Eckley, Peoria; Edwin S. Carr, Peoria; Charles W. LaPorte, Peoria. Democratic: David H. McClugage, Peoria.

TWENTIETH DISTRICT—Republican: C. B. Sawyer, Kankakee; John Trotter, Coal City; R. F. Karr, Iroquois; Roy A. Buckner, Gilman. Democratic: Ernest F. Radeke, Kankakee; J. W. Rausch, Morris; Claude N. Saum, Watseka.

TWENTY-SECOND DISTRICT—Republican: Abraham L. Stanfield, Paris; Hugh N. Luckey, Potomac; Colfax T. Martin, Danville. Democratic: Edgar B. Brown, Paris; Oliver D. Mann, Danville.

TWENTY-FOURTH DISTRICT—Republican: Roger F. Little, Champaign; James A. Reeves, Champaign; William H. H. Miller, Champaign; Alexander Bercher, Atwood. Democratic: Fred H. Cole, Bement; Thompson J. Anderson, Monticello; Thomas J. Kastel, Monticello. Socialist: William Bryan, Champaign.

TWENTY-SIXTH DISTRICT—Republican: G. J. Johnson, Paxton; A. L. Hutson, Colfax. Democratic: E. E. Donnelly, Bloomington; Jacob Martens, Anchor; John P. Russell, Paxton.

TWENTY-EIGHTH DISTRICT—Republican: W. C. Chynoweth, Macon; Henry Menzel, Lincoln; John Clark, Decatur; J. W. Persons, Clinton; Fred W. Reinders, Mt. Pulaski. Democratic: A. A. Hill, Decatur; J. Wilbur Shaw, Decatur; Grover C. Hoff, Clinton. Socialist: Katherine Claus, Lincoln.

THIRTIETH DISTRICT—Republican: Homer J. Tice, Greenview; William G. Burnsmeier, Mason City. Democratic: Martin B. Lohmann, Pekin; Fred L. Warrington, Rushville; H. V. Teel, Rushville; W. E. Wilkins, Athens.

THIRTY-SECOND DISTRICT—Republican: Rollo R. Robbins, Augusta; James H. Foster, Macomb; Faye L. Houtchens, Blandinsville; Michael E. Robinson, Bethel Tp. Democratic: William Adcock, R. F. D., Galesburg; Louis A. Null, Macomb; Franklin M. Hartzell, Carthage. Socialist.

THIRTY-THIRD DISTRICT—Republican: Frank E. Abbey, Biggsville; Harry N. McCaskrin, Rock Island; H. N. Wettler, Rock Island; William E. Whiteside, Moline. Democratic: William C. Maucker, Rock Island; Thomas P. Sinnett, Rock Island.

THIRTY-FOURTH DISTRICT—Republican: Harry Baxter, Newman; Walter E. Cork, Marshall; Clinton S. Hall, Oakland; Wm. B. Berkley, Casey. Democratic: Norman Bennett, Marshall; Joel T. Davis, Tuscola; Patrick Kane, Charleston; Troyt B. York, Casey.

THIRTY-FIFTH DISTRICT—Republican: John H. Byers, Dixon; Henry C. Allen, Lyndon;

A. G. Harris, Dixon. Democratic: John P. Devine, Dixon.

THIRTY-SIXTH DISTRICT—Republican: A. Otis Arnold, Quincy; A. L. Kiser, Pittsfield. Democratic: Samuel S. Hyatt, Quincy; Mary C. McAdams, Quincy; John R. Abbott, Quincy; J. H. Paxton, Golden; Carroll Bush, Pittsfield; R. B. Siepker, Barry; Joseph H. Hanly, Quincy.

THIRTY-SEVENTH DISTRICT—Republican: Frederick W. Rennick, Buda; John Robert Moore. Kewanee; William H. Jackson, Toulon; William R. Teece, Wyandot; Milton T. Booth, Atkinson. Democratic: Frank W. Morrasy, Sheffield.

THIRTY-EIGHTH DISTRICT—Republican: Otto C. Sonnemann, Carlinville; Alvin P. Gillick, Hettick; Robert Whiteley, Carlinville; Chester C. Weber, Litchfield; David Davis, Litchfield; Harry F. Bycroft, Gillespie. Democratic: H. A. Shephard, Jerseyville; Truman A. Snell, Carlinville. Socialist: Benjamin Squires, Carlinville. Farmer-Labor: Fred Heldt, Carlinville.

THIRTY-NINTH DISTRICT—Republican: R. G. Soderstrom, Streator; O. E. Benson, Ottawa; John Wylie, Ottawa; N. M. Mason, Ogelsby. Democratic: Lee O'Neil Browne, Ottawa; Chase Fowler, Ottawa. Socialist: Thomas Johnson, Streator.

FORTIETH DISTRICT—Republican: Lincoln Bancroft, Greenup; H. D. Sparks, Shelbyville. Democratic: Arthur Roe, Vandalia; John C. Richardson, Edinburg; Thomas W. Ashbrook, Taylorville.

FIFTY-FIRST DISTRICT—Republican: John L. Walker, Joliet; Lottie Holman O'Neill, Downers Grove; William R. McCabe, Lockport; Frank S. Lambert, Plainfield. Democratic: Michael F. Henebry, Wilmington; William C. Mooney, Joliet. Socialist: Robert D. Parker, Downers Grove.

FORTY-SECOND DISTRICT—Republican: Charles L. McMackin, Salem; R. J. Branson, Centralia. Democratic: A. B. Lager, Carlyle; J. E. McMackin, Salem; Silas L. Davidson, Salem. Socialist: Frederick A. Cawley, Centralia. Farmer-Labor: E. C. Strang, Sandoval.

FORTY-THIRD DISTRICT—Republican: Owen B. West, Yates City; Reed F. Cutler, Lewistown; Mary O. C. Mackin, Galesburg. Democratic: M. P. Rice, Lewistown; Frank O. Pittman, Cuba. Socialist: Carl M. Sweet, Canton.

FORTY-FOURTH DISTRICT—Republican: Henry Eisenbart, Waterloo; Elbert Waller, Tamarae; R. E. Atkins, Elkhart; Robt. S. Stevenson, Tilden. Democratic: Chas. J. Kribs, Prairie DuRocher; Harry Martin, Sparta.

FORTY-FIFTH DISTRICT—Republican: Euclid B. Rogers, Springfield; Samuel E. Moore, Williamsville; Luther O. German, Springfield; A. M. Williams, Springfield. Democratic: B. L. Barber,

Springfield; Homer D. McLaren, Springfield; Marion U. Woodruff, Springfield; J. I. Simpson, Springfield. Socialist: John Frank Danis, Divernon.

FORTY-SIXTH DISTRICT—Republican: W. B. Phillips, Mt. Vernon; Guy Redman, Olney; George W. McColley, Newton. Democratic: Lawrence F. Arnold, Newton; Theodore P. Stelle, Mt. Vernon; H. W. Faulkner, Mt. Vernon; Joseph H. Payne, Mt. Vernon. Socialist: Samuel Tibbits Hinckley, Mt. Vernon.

FORTY-SEVENTH DISTRICT—Republican: Norman G. Flagg, Moro; Chris Rethmeier, Edwardsville; Clara Halbert Needles, Granite City; Earl Herrin, Edwardsville. Democratic: Robert W. Tunnell, Edwardsville; Wm. Dickman, Edwardsville; Stephen G. B. Crawford, Alton; Charles F. Malloy, Sorento; John Kreider, Collinsville.

FORTY-EIGHTH DISTRICT—Republican: Ed. Ryan, Lawrenceville; Daniel E. Rose, Maunie. Democratic: F. W. Lewis, Robinson; Jerome L. Harrell, Norris City. Socialist: Wilbur Hudspeth, Lawrenceville.

FORTY-NINTH DISTRICT—Republican: Ed. P. Petri, Belleville; Waldo B. Isom, East St. Louis; John T. Wood, East St. Louis; Roy R. Heidinger, East St. Louis; George Keller, Belleville; Thomas L. Fekete, Jr., East St. Louis; Charley Marshall, East St. Louis. Democratic: Frank Holton, East St. Louis; W. A. Murphy, East St. Louis; Grover C. Borders, East St. Louis; John F. O'Flaherty, East St. Louis.

FIFTIETH DISTRICT—Republican: Carl Choussier, Benton; Wallace A. Bandy, Marion; Charles S. Britton, Cairo; Andrew W. Springs, Dewmaine; Delbert B. Cobb, West Frankfort; Harry W. Bradbury, Marion; William E. Lilly, Cairo. Democratic: Thomas J. Myers, Benton; P. M. Proctor, Christopher; Samuel J. Tilden Dillow, Dongola.

FIFTY-FIRST DISTRICT—Republican: D. D. Lockwood, Harrisburg; W. V. Rush, Metropolis; Claude L. Rew, Harrisburg; Roy Summers, Broughton; Charles V. Warren, Broughton. Democratic: John McElvain, Broughton; W. A. Grant, Harrisburg; Ellen O. Johnson, Galatia.

For Trustees of the First Side Levee and Sanitary District

Republican: John D. Johns, East St. Louis; Emil W. Hohlt, East St. Louis; Martin D. Baker, East St. Louis; William H. Alston, East St. Louis; Robert D. Schmidt, Granite City; Lee R. Newgent, East St. Louis; Harry Carpenter, East St. Louis; John W. Costley, Granite City; Griff G. Hodge, Granite City. Democratic: Stephen H. Kerman, East St. Louis; Emil Dingersen, East St. Louis; Earl W. Jimerson, East St. Louis; Thomas J. Healy, East St. Louis; Wm. P. Anson, Granite City; Louis Beasley, East St. Louis; George Lotz, East St. Louis.

SECTION NO. 4

CANDIDATES FOR CONGRESS

The following candidates have filed for congressional nominations in the Chicago districts:

FIRST DISTRICT—Republican: Martin B. Madden, Nathan S. Taylor. Democratic: James F. Doyle, Thor J. Benson, Richard Parker. Socialist: Elinor Whitmore.

SECOND DISTRICT—Republican: Morton D. Hull, Joseph Krooth. Democratic: Frank A. Wright, Joseph Frank, John J. Simpson. Socialist: William Frank.

THIRD DISTRICT—Republican: Elliott W. Sproul, Frank P. Sadler, Robert W. Daniels. Democratic: Joseph F. Timmis, John S. Hickey, George Costello, F. H. Monroe, Frank McGlinn. Socialist: Kellam Foster.

FOURTH DISTRICT—Republican: Stanley Jankowski, Frank Bohnak, Henry G. Dobler, John Golombiewski, Edward Joyce, Thomas A. Shine. Democratic: Thomas A. Doyle, Joseph Mlaka, William Satala, Walter Withoroski. Socialist: John Krause.

FIFTH DISTRICT—Republican: Charles Hechler, Bernard A. Weaver. Democratic: Adolph J. Sabath, Frank J. Vavricek. Socialist: Leon Hancock.

SIXTH DISTRICT—Republican: John J. Gorman, Helmer C. Patterson. Democratic: James R. Buckley, Daniel F. O'Brien. Socialist: Edward Hangsen.

SEVENTH DISTRICT—Republican: M. A. Michaelson, Daniel Webster, Edward A. Russell. Democratic: Hynek H. Howell, John S. Madigan. Socialist: John M. Collins.

EIGHTH DISTRICT—Republican: Ernest D. Potts, Joseph S. Kobrynaski, Theodore S. Smith. Democratic: Stanley Henry Kunz, Theodore J. Maszola, August Simon. Socialist: William L. Long.

NINTH DISTRICT—Republican: Fred A. Britten. Democratic: Urban A. Lavery, Raymond T. O'Keefe, A. J. Huffoletto. Socialist: Evar Anderson.

TENTH DISTRICT—Republican: Carl B. Chindblom. Democratic: John P. Reed, A. A. Pantelis. Socialist: Mrs. Kunia Sissman.

ELEVENTH DISTRICT—Republican: Frank R. Reid, Aurora; D. H. Anderson, Joliet; Edwin F. Deicks, Lombard; Paul B. Fischer, Wheaton; John P. Hart, Aurora. Democratic: Hugh J. Gilmore, Glen Ellyn; Charles L. Schwartz, Naperville. Socialist: George Chent, Elmhurst.

TWELFTH DISTRICT—Republican: Charles E. Fuller, Belvidere. Socialist: Fred N. Hale, Belvidere.

THIRTEENTH DISTRICT—Republican: William E. Murray, Rock Falls; Reuben R. Tiffany, Freeport; William R. Johnson, Freeport; Solon W. Crowell, Oregon; Myron C. Rogers, Fulton. Demo-

cratic: William G. Curtiss, Stockton. Socialist: Xavier Cohant, Dixon.

FOURTEENTH DISTRICT—Republican: William J. Graham, Aledo; Louis K. Cleaveland, Moline. Democratic: Willard A. Schaeffer, Rock Island; Everett L. Werts, Oquawka.

FIFTEENTH DISTRICT—Republican: Edward J. King, Galesburg. Democratic: John B. Cleveland, Kewanee; Henry E. Schmiedeskamp, Quincy. Socialist: John C. Sjodin, Galesburg.

SIXTEENTH DISTRICT—Republican: William N. Hull, Peoria. Democratic: Charles C. Hatcher, Pekin. Socialist: James Lofthouse, Peoria.

SEVENTEENTH DISTRICT—Republican: Frank H. Funk, Bloomington. Democratic: Frank Gillespie, Bloomington. Socialist: Harry A. Crawford, Lincoln.

EIGHTEENTH DISTRICT—Republican: William P. Holaday, Georgetown; John H. Lewman, Danville; Charles W. Raymond, Watseka. Democratic: Andrew B. Dennis, Danville. Socialist: James P. Miller, Ridgeville.

NINETEENTH DISTRICT—Republican: Charles Adkins, Decatur; G. William Byers, Mattoon; Charles E. Moore, Hindsboro. Democratic: George Fulk, Bethany; Raymond D. Mecker, Sullivan; Edward F. Poorman, Mattoon. Socialist: John R. Hefmer, Monticello.

TWENTIETH DISTRICT—Republican: Guy L. Shaw, Beardstown. Democratic: Henry T. Bainey, Carrollton.

TWENTY-FIRST DISTRICT—Republican: Loren E. Wheeler, Springfield; William W. Henry, Virden. Democratic: J. Earl Major, Hillsboro; W. H. Nelms, Springfield; J. Major, Springfield. Socialist: Max P. Heinz, Staunton. Farmer-Labor: Jas. L. McDonald, Girard.

TWENTY-SECOND DISTRICT—Republican: Dr. Ed. M. Irwin, Belleville; R. Guy Kneedler, Collinsville. Democratic: Edward E. Campbell, Alton; Harry E. Jackson, Waterloo; Earl G. Galloway, Stallings. Socialist: Roy F. Boyd, Madison.

TWENTY-THIRD DISTRICT—Republican: Charles J. Metzger, Shobonier; Dale O. Kilburn, Olney; Marion Boles, Mt. Vernon. Democratic: William W. Arnold, Robinson. Socialist: Howard Lee Bollinger, Salem. Farmer-Labor: Fred Horner, Sandoval.

TWENTY-FOURTH DISTRICT—Republican: Thomas S. Williams, Louisville; K. C. Ronalds, Eldorado; W. F. Hamilton, McLeansboro; McPherson Shepard, Grayville. Democratic: J. V. Dillman, Louisville; H. Robert Fowler, Harrisburg; John Marshall Karns, Eldorado.

TWENTY-FIFTH DISTRICT—Republican: Edward E. Denison, Marion; Fred D. Nellis, Cairo; James S. Fleming, West Frankfort. Democratic: Stella E. Hutson, Benton; Abijah Huggins, DuQuoin; A. A. Brands, Prairie du Rocher, Philip N. Lewis, Marion. Socialist: David W. Kennedy, DuQuoin.

Original Articles

SURGERY VS. X-RAY AND RADIUM THERAPY IN THE TREATMENT OF TUMORS OF THE UTERUS*

G. W. CRILE, M. D.,

Cleveland Clinic

CLEVELAND, OHIO

The discovery of the x-rays and of radium and the development of the technique of their application introduced a basis for differences of opinion as to the treatment of tumors of the uterus which has made it imperative to examine critically the evidence presented by the results of various methods of treatment or of combinations of methods.

The American College of Surgeons deemed such a comparative study of the treatment of carcinoma of the uterus of such importance that carcinoma of the cervix was chosen as the first subject for intensive study. In the Cleveland Clinic the whole problem of the correlation of x-ray, radium and surgery in the treatment of tumors of the uterus—both benign and malignant—is under investigation.

Treatment of Benign Tumors of Uterus— We are in accord with the conclusion of John G. Clark that near, during or after the menopause, intramural fibroids of moderate size or fibrosis associated with hemorrhage should be treated by radium or radium plus deep x-ray therapy, unless the tumor is sub-mucosal or sub-peritoneal, in which case radiation will probably fail.

In my judgment, on the other hand, in the child bearing period, radium and x-ray should be used only in the treatment of cancer of the cervix. Since, in the treatment of fibroid tumors surgery carries an operative mortality of less than one per cent with permanent relief in about 100 per cent; since surgery assures the preservation of 100 per cent ovarian balance, and preserves to a surprising degree the child bearing function, there would seem to be no question regarding the use of surgery in the treatment of fibroid tumors within the child bearing period unless for some general reason the patient is not a good surgical risk.

The technique of partial or of pan-hysterec-

tomy and of myomectomy, is now so perfected that any description here would be a waste of time. There is one type of operation, however, by which we have formerly been baffled and which we now apparently have conquered—that is, the removal of a fibroma or a myoma from a pregnant uterus in which the growth is so situated that the obstetrician sees clearly that normal delivery cannot be made and that a premature abortion will destroy the fetus and to some extent imperil the mother.

We have found by experience that in such a case when a miscarriage attended operation, it did not occur during nor immediately after the operation, but usually twenty-four or more hours later—the miscarriage being preceded by a period of labor pains. In considering the large numbers of physical injuries unattended by fear that a woman may sustain without miscarriage, and on the other hand, the frequency with which a miscarriage occurs as the result of a strong emotional shock, it occurred to me that the removal of the emotional factor might obviate the danger of miscarriage.

The following plan of management was therefore adopted:

1. That the patient be kept in ignorance of the day appointed for the operation.
2. That a physiologic dose of morphine be given an hour before the administration of the anesthetic.
3. That the patient be given light nitrous-oxid-oxygen anesthesia in bed and be taken under light nitrous-oxid-oxygen anesthesia to the operating room.
4. That during operation the entire field—abdominal and uterine—be blocked with novocaine.
5. That during operation handling of tissues be reduced to a minimum.
6. That the patient be returned to her bed under light nitrous-oxid-oxygen anesthesia.
7. That the patient be kept under morphin for forty-eight hours after operation as in the Alonzo Clark treatment of peritonitis, much water being given during this period.
8. That at the end of forty-eight hours, the morphin be diminished, unless the slightest rhythmic pain occurs, in which case morphin should again be increased.

By this plan of management I have taken out myomata as large as the fetus and have even

*Read before Tri-State District Medical Association October, 1923, at Des Moines, Iowa.

exposed the placenta without a single post-operative contraction pain. One patient later gave a normal birth to twins.

The total series of my associates and myself of fibroid tumors of the uterus includes 1,235 cases.

The Borderline Cases Between Benignancy and Malignancy—A group of cases which appear at the opposite extreme of life offers another type of problem—namely, the woman at the period of or after the menopause in whom examination reveals a normal vagina and a normal cervix, no fibroid and but slight thickening of the uterine wall, the only sign of trouble being a slowly increasing amount of discharge which may or may not be stained with blood. Such patients as these belong in the precancer class, in fact, five or ten per cent show cancer.

Experience has shown that local and general treatment exerts little influence; curetting and intra-uterine treatment sometimes stop the discharge but more frequently no good effect is seen.

What shall we do with these cases? Shall we wait and see what happens? This courts disaster.

Shall we advise surgery or treatment with radium and the x-rays? Surgery must be used in these cases just as if it were certain that there was a fundus cancer—we know there is no cervical cancer.

As a substitute for operation we may use radium and deep x-ray therapy, but the advantage of radiation as compared with surgery in the treatment of cancer of the fundus is not clearly established. If there is no cancer, in certain cases either radiation or surgery will do well, but in general surgery is better than radiation, for radiation will not relieve cases of submucous fibromata; nor will it relieve the cases in which there is degeneration of the wall of the uterus from arteriosclerosis of the uterine artery.

The following point may justly be raised: Why be in doubt as to the presence of cancer, when by a curettage that fact can be ascertained?

First of all, in its earliest stage, cancer may be missed and no cancer cells may be demonstrated in the curettings. My opinion is that a hysterectomy is indicated whether or not a can-

cer is found. If there is no cancer today, do we know that there will not be a cancer another day? Moreover, these senile changes are usually not cleared up by curettage; and finally, vaginal hysterectomy prolongs the operation for only a few minutes beyond the curettage, and the risk is almost nil; that is to say, the patient secures safety against the future and relief from local trouble at the expense of but a trivial discomfort and a negligible risk.

Carcinoma of the Fundus.—In doubtful no less than frank cases of carcinoma of the fundus, surgery—vaginal hysterectomy—is indicated.

The same procedures are employed when the diagnosis of carcinoma is definitely established with the following added precaution to prevent the implantation of cancer cells: before operation gauze saturated with alcohol is passed well within the cervix and held firmly by means of heavy clamps.

In the certainly inoperable cases radium alone or in combination with deep x-ray therapy offers the best method of palliation.

Carcinoma of the Cervix.—In a case of suspected carcinoma of the cervix a section is first made for microscopical diagnosis. If the diagnosis was confirmed, our method in the past was to destroy the local growth with the cautery and to pack the vagina with alcohol sponges which were left in place over night. The following day an abdominal hysterectomy was performed with a wide dissection of the parametrium and the broad ligaments, an iodoform drain being placed well within the wound. These procedures applied to the certainly operable period, the operation being followed promptly by radium.

At present, however, because of the favorable results of radium and deep x-ray therapy in inoperable cases and the indications of its value in all stages of carcinoma of the cervix, we are not using surgery in any of these cases. We are, however, holding our final judgment in abeyance until a sufficient time shall have elapsed for a definite comparison of the three and five-year results of radiation in early cases to be made.

Our total series of cases of carcinoma of the uterus includes 362 cases among which 107 were cases of cancer of the fundus. The end-results among the cases of carcinoma of the

cervix as they stand to date are given in the following table:

Number of cases cancer of cervix.....	255
Not treated	22
Probable carcinoma, diagnosis uncertain.....	10
Cases available for study of operability, mortality, etc.	223
Radical operation	60
Palliative operation	109
No operation—(radium and X-ray only).....	54
Deaths—radical operations	4
Radical operation mortality.....	6.6%
Cases heard from.....	79
Radical operations, heard from.....	24
Palliative operations plus radium and X-ray, heard from	25
No operations (radium and X-ray only).....	30
Number of cases surviving (5 yrs.) heard from.....	8
Number of cases surviving (10 yrs.) heard from.....	3
Percentage of 5 year survivals (all operations).....	16.3%
Percentage of 3 year survivals.....	37.5%

The inadequacy of these survival percentages in the above table should be noted as in some of the cases heard from the five-year period has not elapsed. These survival percentages are presented therefore as the figures of the moment—an indication rather than an established fact.

SUMMARY

Our judgment *at this date* as to the treatment of benign and malignant tumors of the uterus may be summarized as follows:

1. Benign Tumors:

(a) Within the child-bearing period, partial or pan-hysterectomy or myomectomy.

(b) In association with pregnancy, if the operation cannot be delayed, operation under complete anociation.

(c) At the period of, or after the menopause, radium or radium plus deep x-ray therapy unless the tumor is sub-mucosal or sub-peritoneal.

2. Borderline Cases:

The same treatment as that used when diagnosis of cancer of the fundus is certain.

3. Cancer of the Fundus:

(a) In all operable cases—vaginal hysterectomy.

(b) In inoperable cases, radium alone or in combination with deep x-ray therapy.

4. Cancer of the Cervix:

Radium and deep x-ray therapy, with reservation of final judgment as to the abandonment of surgery.

General Note:

In every case, the patient should be strictly individualized.

REPORT OF A CASE OF UNUSUAL ENDOCARDITIS.*

MILTON E. ROSE, M. D.

DECATUR, ILL.

Unusual and interesting cases come to all of us stimulating our interest and study in medicine. In reporting them, some of us will be able to derive benefit from the experience of others which such reports contain. In recording the following case I wish to emphasize particularly the ease with which one may approach a wrong conclusion in diagnosis, especially in chest cases. Although this type of case is encountered but rarely in the average medical practice, certain of the symptoms and physical findings are frequently seen, and therefore from the standpoint of differential diagnosis, the case is also of interest.

A male, twenty years of age, entered the hospital March 15 complaining of cough, hemoptysis, fever and weakness. His habits had been good and his family history was negative. Three and one-half years ago he had influenza which was followed by a bronchitis. He recovered from this promptly, and remained well until last summer, when his present illness began. He first noticed a general malaise which developed gradually. After a few months it was noticed he had a slight daily rise in temperature, but there was no cough. He consulted a physician in August for relief from these symptoms. A diagnosis of malaria was made, and he was given 30 grains of quinine a day without relief. The symptoms of malaise and fever continued, and in November he began to cough. In December a second physician diagnosed malaria and gave the patient quinine intravenously. As far as the patient or his mother knows he had had not more than two or three chills during these five months that he had been ill.

In January the symptoms abated somewhat and he felt improved. On February 5, however, he developed an acute ethmoidal sinus infection, and he was taken to St. Louis immediately, where drainage was performed. While there, he was examined very carefully and thoroughly by an able internist, who, rather reluctantly I believe, diagnosed an early active tuberculosis, for he informed me that there were no rales on

*Read at Annual Meeting of the Illinois State Medical Society, at Decatur, May 16, 1923.

auscultation, and the few physical findings in the lungs were altogether out of proportion to the temperature, fast heart, etc. The fluoroscopic and stereoscopic examinations of the chest at this time showed considerable hilar and peribronchial thickening and a slight mottling opposite the left hilus region in the region of the third and fourth rib anteriorally which might have suggested a possible very early tuberculous activity. The leucocyte count was 16,000, of which 82 per cent. were polymorphonuclears. No malarial parasites were found, and the complement fixation test for tuberculosis, gave a



Fig. 1. Chest Plate Taken on Admission.

negative reaction. No tubercle bacilli were found in the sputum.

With the diagnosis, therefore, of an early active tuberculosis, he returned to his home in February and was put upon strict sanatorium regime, absolute rest, etc., under the supervision of his competent physician. He remained in bed five weeks, and was then brought to Decatur on March 15. The temperature ranged from normal in the morning to 103-104 in the afternoon, the pulse from 120 to 140, and the respiration from 26 to 32. The cough was pronounced, and for three days he had been expectorating a moderate quantity of bright red blood with prac-

tically no purulent material. He was extremely weak but had no pain.

Physical examination revealed negative findings throughout, excepting impaired resonance and diminished breath sounds over an area corresponding approximately to the right middle lobe. No rales were heard in the lungs, and the heart findings were normal excepting the increased rate and a markedly accentuated second pulmonic sound. There were 16,000 leucocytes, of which 85 per cent. were polys, the sputum on several examinations was negative for tubercle bacilli, and the urine contained a light cloud of albumin with a few hyalin casts.

The x-ray revealed a condition in the lungs vastly different from that found five weeks previously. In the region of the right middle lobe there was a well defined round shadow (Fig. 1) indicating the presence of a mass about the size of a small orange. Accompanied, as it was, by a septic temperature and leucocytosis, it was thought that this mass represented an acute circumscribed non-tuberculous inflammatory process, that is an abscess, either intra-lobular or within the lung and not communicating with a bronchus. Although such a condition is not at all uncommon following operations on infected tonsils, it rarely, perhaps, follows nasal or sinus drainage. However, the rapidity with which the process apparently developed suggested strongly a transference of infection following the ethmoidal drainage.

The circumscribed area was aspirated several times and each time blood was obtained but no pus could be located. A second Roentgenological examination (7 days after the first) revealed considerable increase in the size of the mass as seen in Fig. 2. The plates were taken immediately following an artificial pneumothorax, in an attempt to determine more precisely the exact location of the mass.

The patient died two weeks after entering the hospital. The septic temperature and rapid pulse continued until death, and at no time was there a cardiac murmur detected. Death occurred quite suddenly at night following a free hemoptysis.

Post-mortem examination revealed a subacute endocarditis involving both left and right sides of the heart with a vegetative endocarditis on the tricuspid valve; multiple hemorrhagic in-

farcions in the lung, and a large hemorrhagic abscess containing a large laminated blood clot.

It was this latter which gave the well-defined circular shadow on the Roentgenograms, and it is the opinion of the pathologist that this represented a progressive hemorrhage into an old abscess cavity, undoubtedly resulting from the rupture of an aneurysmal dilatation of a branch of the pulmonary artery. No tubercles were found.

CONCLUSIONS

It has been frequently stated that the facts necessary for a diagnosis of subacute bacterial endocarditis are principally the following: The signs of a definite organic heart lesion, those of a prolonged sepsis with fever and anemia, those of embolism, and positive blood cultures.

In the case reported, no physical signs of a definite organic heart lesion were elicited during the two weeks the patient was observed prior to his death.

The very evident lung finding were misleading in that they pointed strongly to a primary lung or pleural infection and caused the heart to escape suspicion. In such cases, therefore, repeated blood cultures are valuable in establishing whether a bacteremia or only a localized infection is present.

In all cases of prolonged sepsis and fever with obscure cardiac findings, the discovery of definite pathology in other parts of the body should not cause one to neglect to disprove the presence of an endocarditis.

134-136 West Prairie Avenue.

DISCUSSION

DR. DAMON A. BROWN, Peoria: Dr. Rose has covered this case so completely that it leaves little for discussion.

Seeing the case as late as he did, I would like to ask Dr. Rose something about the early history.

There is brought out the question of a septic temperature with a very rapid pulse and practically negative findings meaning endocarditis. In the absence of positive physical findings where a septic temperature and rapid pulse are present, what are the possibilities of an endocarditis? Would you suspect an endocarditis without having the physical signs of cardiac disease, such as murmurs or enlargement, or any other findings, which might direct the attention to the heart? In this case, the individual had been treated twice for malaria; very evidently the diagnosis was wrong.

The man whom the patient saw in St. Louis made a positive diagnosis of tuberculosis. At the time of examination the patient probably had a beginning of

his hemorrhagic infarct and the physical findings were probably a basis for the diagnosis of T. B. One of the most important things in the case, it seems to me, is the previous history of infectious disease such as tonsillitis or any other focal infection, which might have been the exciting cause of this illness. With the septic temperature and a rapid pulse and the absence of very definite physical findings in the lungs, it seems to me that T. B. would not have been a possible diagnosis. A septic pulmonary abscess would have been more likely.

Recently we had a patient with chronic endocarditis, a girl 13 years old. At the age of six she began having attacks of tonsillitis followed within a short time by repeated attacks of arthritis. At the time we first saw her, she had had no arthritis or attacks of



Fig. 2. Chest Plate Taken One Week After Admission.

tonsillitis for about two years. She was complaining of pain in the abdomen with gastric symptoms. When we first went over her, we found no abnormality in the heart with the exception of a slight enlargement and a rapid rate, from 120 to 140. Temperature 99 to 100. Very tender over McBurney's point, and we made a tentative diagnosis of sub-acute appendicitis. While she was in the hospital, under observation preliminary to operation, her temperature rose to 103 and pulse rate increased without a corresponding increase of leucocytes.

A more careful examination of the heart at this time revealed a systolic murmur which had not been present when we first examined her. From this time on she became progressively worse and the question of doing a tonsillectomy arose. We hesitated subjecting her to anything as serious as a tonsillectomy and that is a question which I would like to bring

out here. If you have a child with definitely diseased tonsils and a well developed endocarditis, which is progressing, and the child is extremely sick, are you justified in subjecting the patient to this surgical procedure? This patient developed a cerebral embolism and died very suddenly.

I want to congratulate Dr. Rose for so completely presenting such a very interesting case.

DR. FRANK DENEEN, Bloomington: To me the real essence of this case is not so much the technique of diagnosis of endocarditis as it is the fact that every day almost some of us are brought face to face with the diagnosis of incipient tuberculosis and early tuberculosis. It seems to me and to some of us who work together that incipient tuberculosis is being diagnosed at random when you have a constant running temperature slightly toxic and you find no apparent cause for it, you diagnose incipient tuberculosis. And the more I see of it the more I find out there is no tuberculosis whatever. Fortunately, most of the cases I diagnosed as incipient tuberculosis do not go to the fatal outcome this one did. Most of them get well. They have a low-grade infection elsewhere, such as in the gall-bladder or appendix or the prostate and they run that low-grade temperature for quite a while.

Recently I had a little girl who went for a year with a diagnosis of incipient tuberculosis and no positive sputum. Occasionally she would get a rale in that lung as most everyone will. And yet that girl cleared up absolutely upon ordinary biliary drainage, medical biliary drainage. That case comes to my mind clearly because she had a positive x-ray diagnosis of tuberculosis. All of us have seen those constantly. It teaches that is one reason incipient tuberculosis is no diagnosis whatever and, best of all, positive sputum does not diagnose incipient tuberculosis.

DR. C. GEORGE APPELLE, Champaign: A point which bears repeated mention in these cases is the comparative absence of any definite cardiac findings. That has been a characteristic feature of the few cases which have come under my observation.

Dr. Brown raises the interesting question as to the ultimate recovery of these cases. On this point I wish to cite a case which was a very definite old endocarditis, that is, an old mitral lesion. This man at 25 years of age, had a very bad rheumatic attack which left his heart crippled. When I saw him two years ago, he was then about 49 years old, he complained of weakness and pain in the right upper quadrant of the abdomen. He had a slight temperature. With some findings in the right apex, I thought of an old healed pulmonary tuberculosis with a secondary involvement of the right kidney. The urine showed albumin, pus, blood and casts.

He had an old mitral valve lesion, which we thought could be ignored. I told this man to go to bed and stay there. He insisted upon working. In about two weeks they brought him home from work. He com-

plained of a severe headache and marked weakness. His temperature was about 103. The white count ranged around 18,000. A blood culture was negative for typhoid as was also the Widal test. The blood Wassermann test was negative for lues. I was perplexed as to the nature of the man's trouble.

I worked on the job about a week when I came to the conclusion that this man had a subacute bacterial endocarditis.

Three additional blood cultures were made on successive days two of which showed streptococci. In a few days he developed acute pain in the left hypochondrium which was followed by weakness of the left lower extremity and definite foot drop. These embolic manifestations link up with the pain in the right kidney region for which the patient originally sought relief.

I might add that two guinea pigs which were injected with urinary sediment remained free from tuberculosis.

Throughout the course of this case there were no alarming symptoms referable to the heart, nevertheless the case went to a fatal termination in about four months from the date of my first examination.

It is, perhaps, problematical as to what per cent of these cases recover permanently.

DR. S. E. MUNSON, Springfield: I think this case and the discussions only bring more definitely to our minds the importance of diagnosis. In the first place, where there are not cardiac symptoms, where there is not a definite history to indicate the source that might cause the endocarditis, and you find your patient with a continuous temperature, above normal at least a temperature every day, with sweating, emaciation, loss of appetite, and all the other manifestations of tuberculosis—it is certainly up to the physician to get busy and determine in every way that is possible, with the assistance of the laboratory, if his patient has tuberculosis.

In the absence of finding tuberculosis or acute Graves' disease or other local manifestations, he should always suspect endocarditis. That is the one point that I wish to emphasize.

My experience with the treatment of endocarditis is that you must suspect it in these cases when unable to make a diagnosis of tuberculosis as the cause of your temperature, loss of appetite and emaciation.

I remember seeing a case that went through the hands of quite a few physicians. When the case was referred to me by another physician, he said he had had repeated negative blood cultures. In the absence of anything else to be found, I concluded that there must be tuberculosis somewhere. The patient naturally, without getting any better, and without a definite diagnosis, left me and finally stayed at home. It was only a short time before this man's death that positive cultures were found of streptococcus viridans. At the post-mortem there was the typical nodule, on

the leaflet of one of the aortic valves, that finally caused the man's death.

Now in regard to the treatment of these cases. I think that is an important point. I can't say that the essayist definitely took up the treatment, but some of the discussions are headed that way, so I will say a few words about it.

A very interesting paper was presented last year at the American Congress of Physicians at the Mayo Clinic by Dr. Leonard M. Murray, who was Surgeon-in-Chief of the Canadian forces during the late war. He reported 200 cases of endocarditis, particularly among the soldiers in the service, with post-mortem. There wasn't any favorable prognosis or any treatment mentioned that had favorably terminated any of these cases. The recoveries were only one per cent. He stated positive blood cultures was obtained in about 70 per cent of the cases if Rosenow's method is used, but in many undoubted cases it is impossible to get a positive growth from the blood. The organism found in 80 per cent. of cases was streptococcus viridans; streptococcus hemolyticus in all the remainder except two, which were due to staphylococcus aureus.

Dr. Joseph Capps, in the *American Journal of Medical Sciences*, mentioned fifteen cases that were treated with cacodylate of soda. In the fifteen cases, I think he reported two recoveries. I don't remember just the classification in which he placed them.

During the clinical trip recently of the Tri-State Medical Society almost in every clinic we visited, the subject of endocarditis was discussed. At the University of Pennsylvania, Dr. E. B. Piper brought to our attention the use of mercurochrome, a treatment which he had used with septic blood infections. They had better success with this treatment than they had following cacodylate of soda. As I remember, it is one per cent. with an intravenous injection of 30 to 40 c.c. each 24 hours. Anyone caring to try this in their cases of endocarditis, by writing to Hynson, Westcott & Dunning, the manufacturers, could get from them the exact data for its use.

I just lost a case this morning of septic endocarditis. A young man, 17 years old, gave a distinct history of rheumatism. The blood culture showed pneumococcus. We used cacodylate of soda in this case. The temperature had been normal for the last six weeks, and the pulse even without anything to control it, had been running around 100, but the heart was very largely dilated and just simply a shell. Of course negative temperatures for long periods of time does not prove that the infection has subsided and will not return.

DR. FRANK SMITHIES, Chicago: What I have to say must not be taken in any way as a criticism of Dr. Rose's splendidly presented case. I am discussing his paper at the request of Dr. Jack.

I want to emphasize one thing. It has been stated in this paper and by the discussants that there were no heart signs in the patient in question. Now, there

were no heart signs apparently if one means by such "bruits" or other abnormal sounds, but I think that is a mistake that is too frequently made in the acute infections: men listen for murmurs and atypic sounds and if such are not there are prone to consider the heart as not affected. In some of the most serious instances of heart disease, there are absolutely no atypic murmurs and one must not expect them.

If I may be pardoned any thought of criticism here, I beg to call your attention to the fact that there were, in this case, what I would consider atypic cardiac function. First, the patient had a frequent pulse out of all proportion to the physical signs or the temperature. Second, as the case progressed, persistent and definite accentuation of the pulmonic second sound and, as the x-rays have demonstrated, gradual, progressive enlargement of the left auricle. I would consider those observations as indicating a very strong suspicion that we have to expect some evidences of disease in the endocardium even though that patient never at any time developed atypic sounds, such as murmurs.

With regard to the blood cultures. One must get sufficient blood to make a culture. Not just as much blood as for a Wassermann, but 50 to even 100 or more c.c., implant it in a suitable fluid, and frequently plant it and transplant it, culturing aerobically and anaerobically. There are periods in which the blood is entirely negative because at those times the vegetations are not liberating their abscess contents into the blood stream. It must be then, a continuous search over a long period for evidences of blood infection.

The history of the termination of the case I think was characteristic so far as the x-ray is concerned. Specifically, first a triangular shadow of infarction with an area later developing of liquefaction necrosis, into which there occurred hemorrhage.

Regarding treatment, it has been observed that one may be led astray by the events following the use of salvarsan or atoxyl. These beneficial results may be spontaneous "cures" which have occurred, at about the time that the individual has been given a particular drug; whether or not he had given this drug, there would have occurred a period of quiescence. And such may last for varying periods of time.

Fourteen years ago, full reports were printed respecting the use of arsenicals in endocarditis; the procedure recently has been revived. Murray of Toronto, than whom no clinician has had a more extensive experience, recently commented on the mortality. He observed a death rate of about 92 per cent. in instances of sub-acute endocarditis, and this rate was not influenced by whether arsenicals had or had not been administered.

We have followed a procedure in these cases which seem worthy of more extensive use. As soon as the diagnosis is made, we give these patients whole blood transfusion, promptly. It is hopeless to expect to inject into the blood stream enough medicines to kill

the bacteria without harming other tissues. We aim by transfusions of whole blood to increase the fighting power of the blood and so destroy infection. With this object, early, before secondary damage occurs, it is our custom, at two or three day intervals, to transfuse from 500-1000 c.c. of whole blood by the Kimp-ton-Brown-Perey method.

DR. EDWARD BOWE, Jacksonville: This paper recalls a paper under discussion this morning and in which the question of early recognition of the primary pathology was discussed. In the case now under discussion, we no doubt have the history of a bacteremia covering a period of some time. The early history and laboratory findings in this case would be of much interest, and no doubt assist in clearing up the diagnosis.

Bacteria have certain outstanding characteristics as to habitat, location, growth, etc., and just so in the reaction of the human body to their invasion there are definite resultant pathological conditions with an accompanying and characteristic symptom complex fairly constant in all cases, from the earliest period of bacterial invasion in the body. An early recognition of the infecting agent affords a better understanding of the type of disease with which we are dealing, and is also of great value in determining prognosis and treatment.

In my opinion, such terms as rheumatism, endocarditis and myocarditis are indefinite and convey only a partial explanation of the pathology that generally is present in patients where such conditions are found, because they are generally but localized manifestations in a symptom complex whose pathology in the great majority of cases is a bacteremia in which these conditions are outstanding symptoms. A more intelligent and enlightening nomenclature would be to give the infecting agent as applied to the blood stream and accompanied by these conditions.

Regarding treatment and prognosis. Rational treatment can only be administered when the infecting agent is recognized and prognosis is dependent largely upon the virulence of the strain of the infecting bacteria and the natural or acquired immunity of the patient.

DR. J. E. TUIE, Rockford: I think that Dr. Rose has rather modestly kept himself in the background. I corresponded with him sometime ago and asked him to present a paper. He said he had an unusual case of endocarditis but the exact name of his paper he could not give me until later because he thought the man would die.

I can assure you that he has made a diagnosis months ago in this particular case. I think he has done it by the very methods which he has left open for discussion.

DR. MILTON E. ROSE, Decatur, Ill. (closing): Inasmuch as the discussion has been very thorough and instructive, and has taken up a good deal of time, I will say nothing further.

WHAT PROGRESS IS BEING MADE IN THE TREATMENT OF CANCER?*

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What Is Cancer? Much effort has been made to find an answer to this question, but thus far no solution has been proven. About all we know of the disease is how it acts. Its origin seems to be as securely hidden as the mystery of life itself. In considering the subject it is well to detach oneself from preconceived ideas of cancer, for many misconceptions have arisen and the fog enveloping the question seems impenetrable.

It may be well to start out with the idea that each cell is controlled by two equally balanced forces: one an impulse to multiply, the other inhibiting this impulse. Weigert and Roux believed that the regenerative capacity of cells is determined from the moment of their derivation from the ovum and can never be increased by any external stimulus. Granted that this is true it follows that each cell would multiply indefinitely, provided it was supplied with sufficient nutrition, were it not for some restraining force outside the cell itself.

What this inhibiting power is, from what it comes, and how it acts has never been satisfactorily determined. The mechanical pressure of the cells on each other coupled with a proper supply of nutriment has been suggested but not proven. It is thought the answer may be found in the biochemical laboratory. Borst assumes that inflammatory overgrowth results from response to external irritants while neoplastic growth arises from the loss of the normal restraints to growth. It may be summed up as far as now known that each cell carries within itself its own motor and that the brake is an external mechanism.

Within the organism, as long as the tissues are normal, all is quiescent. Each cell retains its normal place and function. If there is a call for new cells, as when tissue is lost by trauma, the inhibition to cell multiplication is temporarily withdrawn and the cell divides, two new cells resulting. As soon as the lost tissue has been restored the inhibiting agent puts on

*Read before the Inter-State Assembly of the Tri-State District Medical Association, Des Moines, Iowa, Oct. 29, 30, 31 and Nov. 1.

the brakes and each cell again assumes its normal relation to its environment.

Suppose the inhibition is permanently lost, the cells can do nothing but continue to multiply without check. Such a condition is my conception of cancer. Thus it is seen that inflammation and cancer act exactly in the same way, their only difference being that in the former the loss of cell inhibition is temporary while in the latter it is permanent. As Ewing would put it, "anaplastic cells are not embryonal cells, but a new type that have lost their place in the organization. More or less anaplastic cells occur in inflammation, but there are many degrees in anaplasia, and its occurrence in inflammation accords with the fact that inflammatory hyperplasia may pass into neoplastic." To Billroth's dictum, "Without previous chronic inflammation cancer does not exist," there has never been convincing refutation. It is impossible to conceive of a normal cell taking on the attributes of malignancy. A cancerous growth can only start from a cell which has lost its physiological restraints.

Tissue Resistance to Cancer. It is not to be taken for granted that when cancer appears the tissues of the host permit the invasion without resistance. Quoting from Ludin: "Rhodenburg's data in the *American Journal of Cancer Research* prove that in at least 100 well-authenticated, inoperable and apparently hopeless cases of cancer (microscopic diagnosis) spontaneous and complete regression of the tumors occurred." These cases prove that the human body can wage a winning fight against malignancy. Sometime a way may be discovered by which the tissues may be aided in this struggle against an invading foe and be of material assistance in bringing about a cure.

Precancerous Conditions. If it were possible to recognize the conditions which must be present to suspend cell inhibition it would be possible to deal with them before cancer has had time to develop. Thus far all that has been possible is to discover that certain conditions and lesions very frequently precede the occurrence of cancer.

Some of our pathologists are inclined to jeer at the idea of precancerous lesions. Perhaps the term is not a happy one, but it expresses the idea. There is good ground for the belief that certain lesions prepare the soil for the

development of cancer. If malignant disease can only arise as a result of diseased cell function the person who has no pathological tissue is immune. It is vain to hope that it will ever be possible to rid the human body of all pathology, but there are so many accessible and curable lesions which produce the conditions that make cancer possible that much more can be done than has been done. If favorable seed beds could be decreased one-half it seems reasonable that the incidence of cancer would be divided by two.

In the tissues and organs in which most cancers have their origin there are lesions which are followed by cancerous growths so often that the etiological connection cannot be ignored. Chronic leukoplakia and the irritation from jagged teeth furnish the site upon which carcinoma of the tongue develops so frequently that their causative relationship is mathematically proven. The man who goes around with a fissured lip, whether the fissure is caused by pipe-smoking, or by the effect of heat and cold or as the result of chewing a lead pencil is under constant risk of having cancer develop at the base or border of the fissure.

Following along down the line there has been much discussion with regard to carcinoma originating in gastric ulcer and there are still some who deny any relationship, asserting that when an ulcer is found that contains carcinoma it was a malignant ulcer from the start. There seems such an overwhelming amount of evidence that it seems perfectly fair to put gastric ulcer of the indurated type in the list of precancerous lesions.

The scarred cervix kept irritated constantly by a purulent discharge passing over it is potentially a carcinoma. If the irritation continues long enough the result is almost certain. There are also the chimney sweep's cancer, that of the betel-nut chewers, the cancer which develops in the scar of old burns and of varicose ulcers. Thousands of lesions come to the attention of doctors daily that carry with them a warning of danger. The ease and safety with which these lesions can be cured while still benign and the terrible menace they become when malignancy has developed, place a solemn responsibility upon all members of the profession to get rid of these precancerous stigmata when-

ever and wherever they are brought to their attention.

Is Cancer Increasing? A study of the U. S. Mortality Reports for the past twenty years shows definite increase. (See Table 1.) The accuracy of these reports has been questioned and when it is considered that in the best modern hospitals not more than 60 to 80 per cent of the diagnoses are correct a grave doubt exists in regard to the accuracy of mortality reports unless substantiated by operation or autopsy. Twenty-five or thirty years ago when the life-saving operation for appendicitis began to be done in large numbers the mortality reports showed a greatly increased number of deaths from appendicitis. This was readily explained on the ground that the knowledge about appendicitis had made it possible for the diagnosis to be correctly made. No more, not as many, deaths occurred, but those that did occur were reported under the correct caption. The same was true of tuberculosis when the far-reaching campaign against the disease was at its height and explained in the same way. It seems probable that the increasing knowledge of cancer has caused more diagnoses to be made and consequently more deaths reported as due to this disease. Many deaths reported even now as due to old age are doubtless really due to cancer of the stomach.

To prepare Table I, I have computed the number of people 45 years old and over and the number of deaths from cancer of people 45 years and over. From the aggregate of these the number of deaths from cancer or tumor per 100,000 of those who have reached the ages of 45 years or over is obtained. Only the states whose Mortality Reports are complete for the last three census reports have been included. These states have the additional advantage of having only a small percentage of colored population. As is readily seen by referring to the percentages in the brackets the decennial increase in cancer mortality is apparently as great when figuring only those of the cancer age as when the total population is included.

It is not the purpose of this paper to discuss exhaustively regional cancer, but a casual study of the results attained by some of the foremost surgeons by showing what has been accomplished in spite of the handicaps of many late cases, may give us some notion of the possibilities when late

cases are the exception and early operations the rule.

Cancer of the Tongue. Here is a region where prophylaxis can accomplish wonders. The good modern dentists are doing a great work in keeping the mouth healthy and free of the myriad sources of irritation which are a fruitful cause of tongue cancer. The leukoplakias need careful treatment. Small cracks and benign ulcers are frequent and serious if not soon cured.

Bloodgood in a study of 260 cases of cancer of the tongue found there were 62 per cent 5-year cures among cases operated on early and only 12 per cent 5-year cures among those operated on late. In other words, out of each 100 cases 50 more are cured if operated on early than if operated on late. In the experience of the Mayo Clinic more than 60 per cent were found inoperable.

During the past few years the mode of dealing with cancer of the tongue has been considerably modified. There seems little doubt that removal of the local lesion by the cautery, courageously employed, or by radium is replacing the knife. In all these cases the radical removal of the cervical glands by block dissection as practiced by Crile seems to be rational and to be in accord with the methods found so useful in other regions, notably the breast.

Cancer of the Lip. Here prophylaxis and operation on the cases while localized will be followed by a large percentage of cures. Sistrunk's report of cases from the Mayo Clinic are so instructive that they will bear study. He reports them under three groups: Group 1. Glands not involved, local lesion excised and glands removed; 98 cases, 90.3 per cent alive 5 to 8 years. Group 2. Glands involved, local lesion excised and neck dissected; 11 cases, 18.1 per cent alive 5 to 8 years. Group 3. Only growth removed, glands not excised; 27 cases, 79.2 per cent alive 5 to 8 years. It will be seen that in 100 cases 72 more were saved when done before the glands were involved than in the later cases.

Cancer of the Breast. Cancer of the breast has been used as an example of what may be done by early operation. It has been demonstrated by actual cases that when operated on early 70 to 85 per cent can be cured. The problem has been to get them early and in my experience there has been a definite gain in this

regard since the campaign of the American Society for the Control of Cancer was started. Fully 50 per cent of breast tumors that come to me are benign, and 40 per cent of the remainder require an exploratory operation, with a frozen section of many of them, before they are proven to be malignant. This is the most encouraging reaction to the efforts to educate the public I have yet seen. As an index of the more favorable results in early cases Table II is illuminating, it being taken from the records of Greenough and Simmons. In Sistrunk's cases the five-year cures were 65.1 per cent of the cases operated on early before the glands were involved, against 22.0 per cent of those operated on when the glands were involved.

Radical operation has not been replaced by any of the newer methods of treatment. Woglom says: "Neither radium nor the x-ray has done what was at first hoped for from them. There is no doubt that they can often be very useful as a supplementary treatment, and perhaps in the future we may learn so to control them that they may be of more distinct value than they are now. At present, however, any dose that is intense enough to destroy the cancer cell may prove intense enough to destroy the healthy cells in the neighborhood."

As an indication of the wisdom of a cautious adoption of the x-ray the report of Tichy on cases of cancer of the breast treated at Marburg deserves consideration. Tichy divides the cases into three groups and it must be explained that each group comprises all the cases treated during the years indicated. There was no selection of cases:

Group 1. The cases treated during the years 1904-1914 were not x-rayed after operation.

Group 2. The cases treated during the years 1914-1917, scar x-rayed lightly after operation.

Group 3. The cases treated during the years 1918-1919, intensively x-rayed after operation.

Table 3 gives the results at Marburg reported by Tichy, the results at Tübingen reported by Perthes, and the results in Parry's Clinic at Leipzig as reported by Kastner, all using the same groups.

As will be seen by studying the table the most unfavorable results were with the cases intensively x-rayed. It was especially noted that more cases died of metastases and the internal metastases were more numerous and very marked

among those x-rayed intensively. In my own experience for a number of years the x-ray has been used post-operatively in most cases, but I am not yet convinced that it adds to the chance of cure and in some cases it has seemed to be detrimental. Much careful observation will be required to prove the value of the x-ray in breast cancer. The Cancer Research laboratories are studying the problem carefully and authoritative conclusions will soon be reached.

Cancer of the Stomach. Diminution in the mortality from gastric cancer is beset with difficulties that do not exist in most of the other regions, because of the insidious onset of the disease. Before sufficient clinical symptoms manifest themselves to cause the patient to consult his doctor the pathology is usually far advanced. Unless located at the entrance or exit of the stomach, in such a position that early obstructive symptoms are produced, the patient may consider himself in normal health until such dramatic symptoms as hematemesis or the passing of tarry stools occurs.

That there is, however, definite opportunity for improvement is evident from the length of time that usually elapses between the first onset of definite symptoms and the date when a physician is first consulted. That this is a real hindrance to progress we have but to think of our own experience. Unfortunately gastric symptoms are so common that the average person bears with them for a long time before seeking relief. Cheever's analysis of the cases admitted to The Peter Bent Brigham Hospital is parallel to that which might be made in most hospitals. (See Table 4.) This is not a very cheering presentation, but the real situation must be faced. Until such a large percentage of late cases can be eliminated it will not be possible to make progress. Long and strenuous propaganda will be required to overcome this national tendency to put off consulting the doctor.

In a series of 566 cases of proven cancer of the stomach reported by Smithies and Ochsner they found that 239 (41.8 per cent) were cases of cancer following ulcer symptoms, and 182 (32.1 per cent) arose in perfectly healthy subjects. Of the 239 cases chronic gastric disorder had existed for an average of 11.4 years, while of the 182 cases the gastric symptom complex averaged 7.1 months. This is entirely in keep-

ing with the contentions of MacCarty who firmly believes, and his examination of many hundred gastric ulcers proves, that gastric ulcer is a frequent cause of carcinoma.

In the face of evidence like the foregoing, which may be duplicated in many of our clinics, it seems not unreasonable that all gastric ulcers not promptly cured by medical treatment, or that relapse after apparent cure, should be subjected to operation. It is also apparent that the best operation for all ulcers of the indurated type is excision. It is very gratifying to know that this procedure is rapidly growing in favor among many of the best surgeons. Could such treatment be generally followed the incidence of gastric ulcer would be much reduced and some incipient cancers would be removed unwittingly.

Cancer of the Cervix Uteri. In no region of the body has there been so much change recently as in the treatment of cancer when located in the cervix uteri. The Wertheim operation has not been as successful as was hoped. The primary operative mortality has been exceedingly high; nor have the results in those who withstand the operation been greatly superior to those which follow a less formidable procedure. The idea seems to be crystallizing that when a case required such an extensive dissection as in the typical Wertheim it has metastasized so widely that any operation would be a forlorn hope.

For these reasons other means have been sought for combating this fatal malady. In the treatment of advanced and heretofore hopeless cases of cervical carcinoma radium has reached its most brilliant achievement. Surgeons are almost in accord in giving to radium a high position: a few have gone so far as to give it precedence over all other agencies in the treatment of this disease. Most, I think, prefer pan-hysterectomy, a modified Wertheim, in cases in which the disease is still confined apparently to the cervix, reserving radium for the borderline and advanced cases.

Clark divides carcinoma of the cervix according to the progress it has made into three groups: Group 1. Operable cases, the disease being confined to the cervix as far as can be ascertained. Hysterectomy followed by radium is his treatment for this group.

Group 2. Borderline cases, some invasion of the vagina and broad ligaments being present.

This group he begins by a treatment with radium and follows it by hysterectomy if the radium treatment produces a condition which warrants it.

Group 3. Inoperable cases in which the invasion of the surrounding structures is so great that successful operative removal is impossible. In these cases he depends principally upon radium, supplemented, if needful, by local removal of fungating masses by excision, scraping or diathermy.

Tanssig reports the result in over 1,000 collected cases of cancer of the cervix treated by radium five years previous to the reports. About 20 per cent were well, approximately the same percentage as by radical operation; though doubtless some of these cases would have been considered inoperable. By groups it was found that more of the advanced and borderline cases were symptomatically cured by radium than by operation, while of the early operable cases the percentage of cures by radium was only thirty-one, against a percentage of cures by operation of forty to forty-five.

In 4,982 cases of cervical carcinoma reported from a number of German and American clinics 1,989 (39.9 per cent) were considered operable. The cases actually operated on were 1,692 with an operative mortality of 313 (18.5 per cent). Of the 1,379 surviving patients 317 (23 per cent) were alive and well five years after the operation. This would be 18.7 per cent of all operated on, or only 6.4 per cent five-year cures of the 4,982 cases from which the cases operated on were selected.

The problem that confronts us is to get a larger proportion of the cases early while still operable. Considering the early period that definite symptoms of carcinoma of the cervix appear, by proper education and reassurance of the women of cancer age, it ought to be possible to get the majority of the cases into the early operable group. Melson says that in his series the average duration of symptoms before the patients came to the clinic was eleven months. The early symptoms are so characteristic that this great lapse of time seems unnecessary. If women could be fully impressed with the gravity of an irregular bloody discharge, frequent and prolonged menstruation, watery discharge, or any staining in women who have passed the

menopause it seems that any delay in consulting their doctor would be exceptional.

With the good results shown all advanced cases should have the benefit of radium. With added experience in technic radium seems destined to replace operation in all but the early cases of cervical carcinoma. Good cooperation between surgeon and radiologist ought to brighten this gloomy chapter.

Cancer of the Fundus Uteri. Two hundred and forty-four cases operated on by Mayer, Mayo Clinic, Clark, Weibel, Waegeli, Prochownik, and Peterson were followed by 20 (8.2 per cent) operative deaths. Of the 224 who survived the operation 148 (66 per cent) were alive and well five or more years after the operation. This would mean 60.6 per cent of the 244 cases operated on. These results are good, but not nearly as good as they would have been if all had been done early. In Melson's report he states that the patients with carcinoma of the fundus coming to the Mayo Clinic had had symptoms on an average of 17.9 months. The good results under such a handicap show how relatively favorable these cases are. If it were possible to operate on all these cases early the cures ought to mount to 80 or 90 per cent.

The results from operation are so good that most surgeons prefer to treat them by pan-hysterectomy and only refer the very advanced cases for radium treatment. The dictum of Clark ought to meet with general approval. "In cancer of the cervix, when in doubt, use radium. In cancer of the fundus when in doubt, operate."

IS PROGRESS BEING MADE?

Up to the present, it must be admitted, in our fight against cancer the surface has scarcely been scratched. It is true that in early cases a hopeful percentage of cures has been made. But when it is considered how small a proportion of the total number are ever operated on and how low a percentage of those operated on are done while the disease is still early and definitely localized there is really very little upon which to base an opinion of definite progress.

The search for a cause of cancer has been constant and it seems sometimes to overshadow the search for a cure. Many medical men and some surgeons have been lukewarm in advising operation. Pessimism has prevailed in so many

quarters that it is little wonder that cancer victims seek solace by going to the quacks who at least speak encouragingly. The charlatans thrive on these poor unfortunates and many well meaning ethical doctors contribute to their prosperity by literally driving their clientele to the man who, at least temporarily, gives them hope.

Let the search for the cause of cancer go on. It is my conviction that when it is discovered it will be found to be a disassociation of the cell from its environment due to age plus irritation or inflammation and the problem facing us in its cure will be exactly what it is now. It does not seem probable that an explanation of the cause of cancer is going to carry with it any great epoch making method of cure. This sounds pessimistic, but it is not meant to be as pessimistic as it sounds. With the present knowledge and with the armamentarium we now possess it is within the possibilities to decrease the present mortality at least 50 per cent, which would mean the saving of at least fifty thousand American lives annually.

Why is the present death rate so high? First: The large number of cancer victims who do not consult a reliable doctor or who never receive intelligent advice—most of whom drift into the hands of quacks.

Second: The very large proportion of cases that are found inoperable when they reach the surgeon.

Third: The many who are operated on so late that cure is impossible.

Fourth: The very small number of cases operated on early, while the disease is still localized.

It is the task of the century to get all of those in the first three groups into the fourth group. The three reasons why an army of cancer victims are swept away annually are the result of a number of contributory factors:

First: Ignorance on the part of the layman.

(a) He does not know the early signs and symptoms.

(b) He believes cancer to be incurable.

(c) He fears the truth and dreads the knife.

(d) Too often, if he consults a doctor, he is met by indifference, vacillation, delay or in some instances, by such pessimism that he takes refuge with the charlatan.

Second: Lack of proper advice by his doctor, due to:

(a) Not sufficient examination or no examination.

(b) The patient is ridiculed and the symptoms regarded as trivial.

(c) Watchful waiting until an early favorable case becomes a late unfavorable case.

(d) A prompt diagnosis but with such discouraging remarks about the prognosis that the patient begins to search for someone who will give him encouragement.

Third: When he finally reaches a surgeon he may find a man so lukewarm and so skeptical about results that he does an inadequate operation or merely a palliative one. It must be understood that no operation is far better than one which does not get beyond the most remote extension of the disease.

Then how *can* progress be made? Is it possible to materially reduce the annual death toll? A complete reversal of the conditions that have contributed to the present awful mortality will have to be made. There is an urgent call for such a widespread, intense, and continuous educational campaign that every layman will know a few concrete facts:

(a) The initial warning signs of cancer as they manifest themselves in the various regions of the body.

(b) That at the beginning cancer is a local disease.

(c) That it is curable if operated on early.

(d) That the knife is their friend when properly used.

Every doctor will have to be alert to each sign or symptom that might spell cancer. It will be necessary for him to make a most thorough and methodical examination of every case as a routine practice. It is also his province to relieve his patients of all those conditions known to precede the development of cancer, such as leukoplakia, fissures of the tongue or lip, gastric ulcers, warts, moles, lacerated cervixes, chronic irritations wherever they may be located. If a condition is found which might be cancer or which he cannot say is not cancer there will be no temporizing or mincing of words. Such a case will be given the benefit of an exploratory operation and will not be dismissed until macroscopically and microscopically it is proven to be benign. If not in a position to do this himself he will send the patient to a reliable surgeon.

The fate of thousands of these patients rests upon the thoroughness, the skill, the promptness and courage of the first doctor consulted.

A grave responsibility also rests upon the surgeon. A very careful examination must be made, and in the history the time noted when the first indication of disease appeared. The exact local condition is also recorded and accurately described, including the location, the size, consistency, and whether adherent and if there is any local infiltration and to what extent. The presence and extent of enlarged glands is also noted: as well as a record of any breaking down of tissue. A complete skeletal and other x-ray examination is also necessary for exactness as well as to make a follow up system of any statistical value.

If after thorough investigation it cannot be proven to be benign he should not hesitate to advise an immediate exploratory operation and be prepared to perform an immediate radical operation if the biopsy reveals malignancy. If his examination shows definite malignancy he must decide upon its operability and plan the operation as a commanding general plans the strategy of a battle. If the disease has progressed considerably with the question of favorable operability in doubt it is well to call in an honest experienced radiologist and let the two bring some real teamwork into the case. In the present status of the cancer situation I would say that the surgeon who operates on an advanced incurable carcinoma is reprehensible, and the radiologist who uses radiation alone for a definitely operable carcinoma is equally blameworthy.

The surgeon who operates for carcinoma has the life or death of the patient in his hands in a double sense. How far he can risk an immediate operative mortality to better insure a permanent cure requires almost uncanny surgical judgment. Makeshift operations have no place in operations for cancer. It is necessary to go wide of the disease in every direction if a permanent cure is to be expected. The surgeon who undertakes this work must be thoroughly conversant with all the avenues over which the disease advances and cut centrifugally to the probable furthest limits. If he expects to have a great many cures he must be ruthless in the removal of tissue and regardless of the length of the scar. Here the viewpoint should be the

exact opposite from that when operating for benign conditions.

It is common observation that many operations for cancer are undertaken which are hopeless from the start. The decision between operability and inoperability is of the utmost importance. It does not contribute to the success of the fight against cancer to operate on hopeless cases, unless it is clearly understood in advance that it is purely palliative to mitigate pain or to get rid of sloughing tissue. In cases frankly inoperable it is usually better to treat them with radium or x-ray or other palliative or curative measures rather than to operate when it is known in advance it will do no permanent good or produce no amelioration of the patient's condition.

Before great progress is made there will have to be genuine coöperation and real team-work among the medical men, the surgeons, the pathologists, the radiologists and the public.

TABLE 1.

U. S. MORTALITY REPORTS—DEATHS FROM
CANCER OR TUMOR. RATE PER 100,000
POPULATION IN REGISTERED AREA.
RATE OF INCREASE IN BRACKETS.

	1900	1910	1920
Registered Area	63.0	76.2 (20.9%)	83.4 (35.5%)
Rate in States per 100 000 Population 45 yrs. old and older.			
	1900	1910	1920
Connecticut	263.6	316.8 (20.1%)	429.5 (35.5%)
Maine	283.4	328.6 (15.9%)	409.0 (24.5%)
Massachusetts	288.8	364.5 (26.2%)	450.2 (23.5%)
Michigan	251.3	294.4 (17.1%)	358.6 (21.8%)
New Hampshire	243.6	317.6 (30.3%)	395.7 (24.6%)
New Jersey	238.5	323.4 (35.6%)	380.6 (17.7%)
New York	264.7	345.3 (32.9%)	413.2 (12.7%)
Rhode Island	264.0	351.1 (32.0%)	395.9 (12.7%)
Vermont	296.2	372.1 (25.6%)	398.5 (7.1%)

TABLE 2.

CANCER OF THE BREAST.
GREENOUGH AND SIMMONS.

	No. cases	Alive 5 yrs.	Percentages
1. Early favorable	14	10	71
2. Favorable	26	9	33
3. Average	29	3	10
4. Advanced (Palliation)	17	1	5
5. Hopeless (No operation)	9	0	0
Total	95	23	24.2

TABLE 3.

CANCER OF THE BREAST.

Group 1. Not X-rayed after operation.			
Group 2. Scar X-rayed lightly.			
Group 3. Intensively X-rayed after operation.			
Ticky in Marburg.	Group 1 (1904-1914)	Group 2 (1914-1917)	Group 3 (1918-1919)
Total number	62	61	11
Recurrence within 1 yr.	7(11.2%)	23(37.7%)	5(45.5%)
Metastasis developed	3(4.8%)	7(12.1%)	
Recurrence within 1 yr.	20(32.2%)	37(60.6%)	2(18%)
Free of recurrence after 3 yrs.	24(38.7%)	23(37.7%)	
Free of recurrence after 5 yrs.	13(20%)	19(31.8%)	
Perthes in Tübingen.	Group 1 (1910-1912)	Group 2 (1913-1916)	Group 3 (1916-1918)
Total number	130	144	72

Recurrences within 1 yr.	37(28.0%)	55(38.2%)	30(41.0%)
Recurrence within 3 yrs.	62(47.5%)	78(54.2%)	
Metastases without local recurrence	14(11.0%)	18(12.6%)	13(18.0%)
Free from recurrence after 3 yrs.	50(38.5%)	44(30.5%)	Multiplicity
Free from recurrence after 5 yrs.	36(27.7%)	5(20.3%)	of internal metastases very marked.
Free from recurrence after 6 yrs.	32(24.6%)	5(20.3%)	
Kastner in Leipzig. (Payr's Clinic)	Group 1	Group 2	Group 3
Total number	69	22	42
Recurrence within 1 yr.	33%	36%	47.6%
Therefore Payr for the time being dispensed with the X-ray.			

TABLE 4.
CANCER OF THE STOMACH.

DAVID CHEEVER REPORTS AS FOLLOWS:

Duration of symptoms before admission of 220 cases.		
Less than 2 weeks	2	0.9 per cent
2 weeks to 1 mo.	5	2.3 " "
1 to 2 mos.	24	10.9 " "
2 to 4 mos.	52	23.6 " "
4 to 6 mos.	28	12.6 " "
6 to 12 mos.	65	29.5 " "
12 to 18 mos.	12	5.5 " "
18 to 24 mos.	21	9.5 " "
2 to 2½ yrs.	4	1.8 " "
2½ to 3 yrs.	5	2.3 " "
More than 3 yrs.	2	0.9 " "

Analysis of Operability of 236 cases.		
Frankly Inoperable	124	52.5 per cent
Explored, Found Inoperable	24	10.1 " "
Palliative Operation	53	22.4 " "
Radical Operation	23	9.7 " "
Operation Refused	12	5.0 " "

Of the 23 cases of Radical Operation, 3 were alive 5 years after the operation. This would be 13 per cent. of the radically operated cases, or 1.2 per cent. of all cases seen.

CONTROL OF DIPHTHERIA*

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Introductory. I shall not attempt at this time to add anything new to the vast amount of information already available on the control of diphtheria.

I will confine my remarks chiefly to a consideration of practical methods of procedure from the standpoint of the public health officer; stating a few facts, making a few deductions, and expressing a few opinions.

Factors of Control. The control of any communicable disease depends in general upon four prime factors: (a) the isolation or identification of the causative agent, (b) a knowledge of its distribution among individuals, (c) an appreciation of the avenues of transmission, and (d) an understanding of the fate of the virus outside of the human body.

Causative Organism. With the discovery of the bacillus by Klebs in 1883 and its culture by Loeffler in 1884, the etiology of diphtheria was established.

In subsequent years, there has been no rea-

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son to doubt that the Klebs-Loeffler bacillus is the causative organism of this disease.

In fact, the organism has met all the requirements of Koch's postulates as to etiological relationship.

Distribution. The distribution of the organism among the human individuals who constitute the sources of infection includes:

(a) The frank clinical case, (b) the atypical or missed case, and (c) the healthy carrier.

Among animals, the cat has been regarded as a possible carrier of the diphtheria bacillus, but there is no conclusive evidence on this point.

Recently Perkins and Shen¹ made a bacteriological examination of the noses and throats of 22 cats in connection with their work on the bacillus lactimorbi, which resembles the diphtheria bacillus in appearance and is sometimes confused with it when found in human throats. In 7 of the 22 animals, the bacillus lactimorbi was found; indicating that in cats as well as in humans this organism may be mistaken for the diphtheria bacillus, and a wrong diagnosis of diphtheria or a carrier state made.

Incidence. The general incidence of diphtheria has not decreased in recent years, in spite of isolation and antitoxin.

The U. S. Public Health Service figures show an increase for the registration area during 1921, as compared with the median number of cases reported during several preceding years. This, of course, may mean an actual increased incidence, or a more complete reporting by physicians, or an increased use of the laboratory for diagnosis.

The age distribution of the disease is very striking. Eighty per cent of all the cases occur before the fifth year. It is therefore quite obvious that, from this standpoint, the control of diphtheria is essentially a preschool problem.

The comparatively easy diagnosis of the frank clinical case greatly facilitates the handling of this source of infection.

Atypical or Missed Cases. The atypical or missed case is the greater problem of the health officer today, because of the fact that these individuals are overlooked, and therefore do not come under his surveillance. In fact, this type of case is probably a greater menace than that which is properly diagnosed and adequately supervised.

In the medical inspection of school children,

I have found in the classroom cases of diphtheria with bloody nasal discharge, which presented no pharyngeal symptoms and only slight constitutional disturbances.

Furthermore, we do not know how many sore throats without membrane are diphtheria.

I once saw a child separated from a perfectly normal appendix; when a casual examination of his throat would have revealed a well developed membrane.

Too much reliance must not be placed upon the report of the laboratory findings. In some cases, cultures taken in the customarily superficial way are negative, when diphtheria bacilli are present in the throat. A culture from under the membrane will often reveal the true diagnosis, when superficial cultures are negative.

The missed case is frequently due to a failure to read the clinical picture and a shifting of the burden of diagnosis upon the laboratory.

More careful investigation and more accurate diagnosis will materially decrease the dangers of this source of infection.

Carriers. As the discovery of pathogenic organisms marked an epoch in the development of curative medicine, so the recognition of carriers profoundly influenced procedure in the preventive field.

And at the same time, it added an embarrassing factor to the health officer's problem of supervision of infective sources. For it is extremely difficult to regulate the habits of a healthy individual who presents no symptoms of a communicable disease and yet is a menace to the public health.

McGuire and Hitchens² recently published some very interesting data on the prevalence of diphtheria carriers among the admissions to a citizens' military training camp. Cultures from the throats of 1,080 healthy young men between the ages of 17 and 21 showed that nearly 1 per cent of them carried virulent diphtheria bacilli. Among 833 of these men, 55 per cent gave a positive Schick, indicating an absence of antitoxic immunity. And yet, in spite of the close association of carriers and susceptibles, not a single case of clinical diphtheria developed during the four weeks' training period.

As early as 1894, Park and Beebe³ demonstrated the fact that among 330 healthy persons in New York City, none of whom were known to have been in contact with diphtheria, more

than 2 per cent had virulent diphtheria bacilli in their throats.

Many observers have noted that from 1 to 2 per cent of healthy school children show the presence of virulent diphtheria bacilli in their throats, whenever the cultures may be taken.

Park⁴ makes the statement that many convalescent cases remain carriers for an indefinite period of days or weeks, and that persons in contact with them frequently become carriers without developing the slightest disease, and that these contacts in turn infect a third group who may become carriers or true cases.

In view of these facts, it is quite evident that the detection and control of healthy diphtheria carriers on any extensive scale, for the purpose of clearing masses of people from infection, offers practically insurmountable obstacles at the present time. Even in institutions, schools and families, the handling of carriers is very difficult, and not always successful.

Mode of Transmission. In former days, there used to be a distinction drawn between an "infectious" and a "contagious" disease. Today, we call such diseases "communicable," and consider this to be the better term.

Diphtheria is a communicable disease because it may be transmitted, directly or indirectly, by contact with the infective organism. The mode of transmission is directly by personal contact; and indirectly by articles freshly soiled with discharges, or through infected milk or milk products. The transmitting media are the discharges from the diphtheritic lesions of the nose, throat, conjunctiva, vagina, and wound surfaces; and the secretions from the nose and throats of the bacillus carriers.

The suppressive measures of today are designed chiefly to confine the infecting organism to the case, by preventing the dissemination of fresh body discharges. In other words, emphasis is laid upon "technical" isolation rather than physical isolation. The aerial transmission of infection is practically ignored, and the whole attention is centered upon surgical cleanliness. This is the fundamental principle of the "aseptic nursing" of communicable diseases introduced in the Providence City Hospital by Chapin in 1910; which has met with remarkable success, and has revolutionized our procedure in the hospital care of such cases.

Richardson states⁵ that during nine years, up

to January, 1919, 11,074 cases of various communicable diseases were admitted to the Providence City Hospital; and that only 234 cases of cross-infection occurred—a rate of 2.1 per cent. Two-thirds of these cross-infections were due to chickenpox and measles. With more than 2,500 cases of diphtheria admitted, only 10 cross-infections of this disease occurred—a rate of 0.4 per cent. All the cases were treated in the same building or in the same ward, and the infection was confined to the individual room or to the individual bed.

Several other hospitals in the country have duplicated these results⁵. And with proper nursing technique, the same procedure can be carried out successfully in the home.

A study of the figures, however, shows that the isolation of diphtheria, both in the home and the hospital, has not accomplished the desired reduction of its prevalence. This is due to a failure to detect and to control all the sources of infection.

The question of milk supply is of great importance in the control of diphtheria, for it furnishes an excellent medium of transmission. The first epidemic of diphtheria traced to milk was reported by Jacob in 1877, and occurred in England. Since that time, according to a partial list by North⁶, at least 55 milk borne epidemics of diphtheria had occurred up to the year 1920.

Graham and Golaz⁷ quite recently reported such an epidemic in Texas, resulting from the infection of a milk supply by a milker who carried the virulent diphtheria bacilli in his nose.

Fate of Organism. A proper understanding of the fate of the organism outside of the human body is of prime importance in developing a rational system of communicable disease control.

In the past, too much emphasis has been placed upon environment, and not enough attention directed upon the individual, the real source of infection. It is true, we recognize the fact that in some instances infection is spread through an intermediary host in the animal or insect species. Likewise, we appreciate the fact that, under favorable conditions, human organisms may thrive in such media as milk and water, and become a real menace to the consumer of these products. On the other hand, recent investigations have demonstrated quite clearly that human organisms are very fragile and rather

promptly die or lose their virulence outside the human body, especially under conditions of drying and sunlight. It is on this basis that the contact diseases are handled today.

Methods of Procedure. Having thus far discussed the factors involved in the control of diphtheria, let us consider the practical methods of procedure. In this connection, we shall include diagnosis, isolation of the case, antitoxin administration, the Schick test, and toxin-antitoxin immunization.

Diagnosis. The diagnosis of diphtheria rests upon the clinical picture and the laboratory findings. The clinical picture is sometimes confused with catarrhal or follicular tonsilitis, or Vincent's angina, or an atypical form of the disease itself. Michie⁸, in his handling of American troops in Germany, resorted to the Schick test as a means of differentiation; only the true diphtherias giving a positive Schick reaction, even when the case showed a carrier state by the presence of diphtheria bacilli in the throat. Laboratory findings are often nullified by faulty technique in obtaining the culture; sometimes it is necessary to dig in, in order to get the organism. A negative culture does not always mean absence of diphtheria; nor does a positive culture always mean presence of diphtheria. There is danger in relying too much upon the laboratory report. A common error is the failure to get a culture from the nose.

Isolation. With a diagnosis established, the next step is the isolation of the case. A prompt report by the attending physician serves materially to reduce the number of exposures and possible secondary cases. Failure to do this may mean an epidemic. Under competent health supervision, individuals in a quarantined home who yield negative cultures may continue their activities. The release of wage earners is of economic importance. A virulence test is sometimes necessary for the release of a carrier. It is often of advantage to hospitalize the case. By aseptic nursing, diphtheria may be safely handled in a general hospital or in any institution housing many individuals, so long as the technical isolation of the case is carefully observed. Concurrent disinfection of the body discharges is the great factor here. By the time the patient is innocuous his environment is safe, excepting the few objects which may have been

directly soiled by the secretions; and soap and water will take care of most of these. Fumigation is unnecessary; for it has been amply demonstrated that it is of no practical value in controlling contact diseases. Richardson⁹ says that in contact diseases the whole room occupied by the patient is not contaminated and fumigation serves no other purpose than to appease the conscience of hospital authorities, health officers and the public.

Antitoxin. The introduction of antitoxin in the treatment of diphtheria produced a tremendous reduction in the mortality rate. Of 183,000 cases in 150 cities previous to its use, the mortality was 38 per cent; among 132,000 cases after its introduction, the mortality was 14 per cent. By the use of antitoxin, the mortality rate in Illinois during the past four years has dropped from 13 per hundred to 6 per hundred of reported cases. And this figure can be still further reduced by a more general use of antitoxin, promptly administered and in sufficient quantity. The time element is all important. No amount of antitoxin can compensate for delayed administration. To wait for the laboratory report, may mean a fatality—has meant a fatality in many a case.

Schick offers the following suggestions regarding the administration of antitoxin: (a) for mild and medium cases, 100 units per kilo of body weight, (b) for severe cases, 500 units per kilo of body weight, (c) for immunization, 50 units per kilo of body weight, (d) repeated injections should be omitted as superfluous, (e) slight improvement in curative results may be obtained by intravenous injection.

Given the primary case, the prompt immunization of all contacts should never be omitted. In hospitals, and other institutions, it falls upon the health officer to determine what individuals shall be considered contacts.

The occasional untoward results of antitoxin administration offers no justification for neglecting its use.

The immunity conferred by antitoxin is brief because it is rapidly eliminated from the human body. According to Park⁴, a thousand units injected at the time of exposure will give absolute protection to all persons for ten days and to most persons for three weeks. Each repeti-

tion of the injection gives an added period of safety of about one week.

Schick Test. Experience has definitely shown that only those individuals contract diphtheria who have no antitoxin, or only a minute amount of it, in their blood and tissues. In 1913, Schick published a description of a simple clinical test by which the amount of antitoxin present can be accurately demonstrated. The reaction depends upon the local irritant action of a minute quantity of diphtheria toxin injected intracutaneously. If the individual has no antitoxin, or not enough to protect against diphtheria, a positive reaction will appear in from twenty-four to forty-eight hours. If the individual possesses antitoxin, and is immune to diphtheria, a negative action results.

This test has proved to be thoroughly reliable, and exceedingly valuable in determining susceptibility to diphtheria. Without quoting too many figures, the percentage of individuals susceptible to diphtheria is shown by this test to be greatest between the ages of one and two years (75 per cent); and least in adults and infants under six months (roughly 20 per cent). The mortality rates show an interesting comparison in this respect⁴.

The practical application of this test is especially valuable in the control of admissions to children's hospitals, state schools, and other institutions of similar character.

I will not attempt at this time to discuss the details of the technique, nor the interpretation of the reaction.

Toxin-Antitoxin. In 1913, Behring published the results of his attempts to immunize human beings against diphtheria with neutralized toxin. Park immediately began to use it; and by an immense amount of work has already demonstrated its practical value. May I quote, in part, the summary and conclusions of his article on this subject recently published¹¹:

Three injections, 1 c.c. each, of a suitable toxin-antitoxin mixture spaced one or two weeks apart, will cause about 85 per cent. of susceptible children or older persons to develop sufficient antitoxin to give the negative Schick reaction and produce marked, if not absolute, protection against diphtheria.

The development of the immunity is slow. An amount of antitoxin sufficient to prevent the positive Schick reaction develops in the different children in from one to six months after the receiving of the injection. Antitoxin as heretofore must continue to be used to produce immediate immunity.

The duration of the immunity in at least 90 per cent. of the children is for more than six years and probably for the remainder of life.

A toxin-antitoxin mixture of stabilized materials which is safe when it leaves the laboratory cannot become more toxic on being kept. No serious effects have ever resulted from the injections given to the tens of thousands of the New York children since we began our work, seven years ago.

The Schick test is an extremely reliable means of separating those individuals who have antitoxic immunity from those that have none. Although a simple test, it must be carried out with extreme care.

In practical school work, the first Schick test is frequently omitted in children up to the age of six because it is easier to inject the children at once rather than to delay for the test. At this age the percentage of children requiring immunization is still high, and the annoyance from the injections is slight. The omission of the preliminary Schick test facilitates the introduction of the immunizing injections in the schools. Above the age of six years, the preliminary Schick test should be made whenever practicable.

No child should be pronounced immune from diphtheria because of having received three immunizing injections of toxin-antitoxin. A negative Schick test is absolutely necessary before one can properly make such a statement or issue a certificate.

The toxin-antitoxin injections are inadvisable before the age of six months. During this time most of the infants retain the antitoxin received from their mothers. Under usual conditions, it is probably safe to wait until the infant is nine months old and then to give the injections at the first suitable occasion. During the first three years there is almost no annoyance from the injections. As the child grows older, the danger from diphtheria gradually lessens, and the percentage of those developing annoying local and constitutional reactions slowly increases.

There appears to be no difference in the degree of immunity between those individuals who have developed antitoxin from natural causes and those who did so because of the stimulus of the toxin-antitoxin injections.

Institutions in which the children have been given the immunizing injections have been remarkably free from diphtheria.

Conclusion. In concluding this paper, may I express the opinion that toxin-antitoxin immunization is the real solution to the problem of diphtheria control.

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DISCUSSION

DR. C. A. EARLE, DesPlaines, Ill.: I have done the medical work for upwards of 30 years for a large orphanage numbering now 1,200 children. Five years ago we had 85 cases of diphtheria with 7 deaths. Immediately after this epidemic I began Schick testing and immunization with T. A. mixtures. Since that time we have not lost a child with diphtheria.

During the past three months we have had a small epidemic. It has been exceedingly interesting to me to study the incidence of diphtheria in this school with reference to the accuracy of the Schick test and the effect of T. A. mixtures, if not absolutely preventing diphtheria, at least preventing death. During this epidemic I tested 462 children. Of the 462 children, 428 were Schick negative. Among the 428 only *one* developed a throat lesion that could possibly be diphtheria. The remaining 34 were Schick positive. Of these 34 who gave a positive Schick reaction, 17 or 50 per cent. developed diphtheria. To state it more graphically, the chance that a Schick positive child would get diphtheria in this institution was 250 times that of a Schick negative child. The lesson this teaches is to make all children Schick negative. To be Schick negative is practically to be immune to diphtheria.

Of the 18 cases of diphtheria 5 never had received T. A. One case developed in a child 8 months after three T. A. injections. All the other cases developed less than 5 months after receiving T. A. injections.

In my experience three doses of T. A. will immunize 85 per cent. of susceptible children. The persistent use of T. A. will ultimately immunize all. I have given several children three rounds of T. A., that is nine doses, before getting the desired effect.

As far as my experience goes, the administration of T. A. to children is devoid of danger. Only three small abscesses developed in about 4,000 injections. Dr. Brokaw deserves the approbation of this Section for again reminding the profession of what is perhaps the most recent potential disease preventive procedure we have.

DR. JOHN DILL ROBERTSON, Chicago: I rise to say I have listened to a great many medical papers in my life and in my judgment this paper of Dr. Brokaw's is correct to the minutest detail. As he read the paper I have listened carefully for some flaw in it, and I am unable to point out any. It is a wonderful paper, correct in every detail, even when he says there is no use of fumigating.

At the same time, as Health Commissioner of Chicago I spent \$20,000 to \$25,000 each year for fumigating. The only excuse I had for fumigating was to make the householder scrub, clean and air the building. I do not know any other way to get quick

cleaning and airing of the homes where there have been contagious sick, other than to say to them, "We cannot fumigate until you clean." In other words, this is a means to an end.

I tried to sell Toxin-Antitoxin to the people of Chicago. I posted the sign in every street car and kept it there three months. We have 3,300 service cars and half again as many elevated cars. These signs always contained the words: "Consult your family doctor." We told them about T. A. Just a few words, and they get it. When they went to the family doctor with this message, frequently he said, "I do not know anything about it—it is new stuff and I do not dare try it." We found that would not go. We then started over again with the Chicago Medical Society. They brought Dr. Zingher of New York on to Chicago, and later Schick, the originator of the Schick test, appeared before our Medical Society and discussed the problem. Up to the present time a vast majority of our physicians have not given it any serious consideration. It will probably take some years to popularize this remedy with the general practitioner.

As you know, a great many physicians do their own appendectomies and many other major operations. Why do an appendectomy on a few people and overlook entirely thousands of children between the ages of 9 months and 6 years, who, under the simple process of the T-A vaccination, will be prevented from having diphtheria. There are six times as many children die every year from diphtheria as there are people killed in automobile accidents. Just six times as many. And that could all be prevented if the 120,000 practicing physicians in America were alive to the saving grace of T-A, as are Dr. Earle and Dr. Brokaw. Dr. Earle makes regular charges for his services and derives a considerable income from this beneficent prevention work.

Many physicians object to the health officer interviewing and advising their patients in regard to preventive medicine. This would not be necessary if the general practitioner would embrace such practices as are presented by Dr. Schick, and administer T-A. Millions of dollars worth of children's lives could be saved, and incidentally millions of dollars earned by the general practitioner in saving them.

Yes, if I were health officer in Chicago at the present time I would continue to fumigate. Let me make this very plain. First, I am taking the same position now as before. Second, in order to insure early cleaning of the premises, when the householder asks us, "when are you going to fumigate?" we tell him, "when you have thoroughly cleaned up." We hold out fumigation to them when they have thoroughly cleaned up, and say to them, "nobody comes into this house until you have done so."

I expended nearly \$200,000 in trying to isolate diphtheria carriers. We excluded these carriers from the schools in such large numbers that we nearly broke up the schools. We had to stop that so we confined the exclusions to those that showed virulency, but we

found only two out of every 100 of these carriers that were virulent. The time we took to get the swabs and make laboratory examinations to detect the 100 and then to detect the 2 per cent. of virulence, made so much work that it had to be abandoned because it was impracticable.

There is only one practical way to prevent diphtheria, and that is through the use of Toxin-Antitoxin, and this should not be the health officer's problem at all. Every practitioner in this country should be on this job, and every doctor in this state ought to have heard Dr. Brokaw's paper today. He has pointed out the only way to solve the diphtheria problem. If you are not going to believe men like Theobald Smith, Schick, Parke, Earle and Brokaw, whom will you believe?

DR. E. W. WEISS, LaSalle: Scientifically, fumigation is nil. As a matter of fact, it does harm. It places the people under a false sense of security which is not there. We hear people today—are you going to fumigate, when are you going to fumigate our house, when will you raise the quarantine, and so on. There is where it plays the mischief. Fresh air, disinfection, clean up the clothes, is all that is necessary and it don't cost any \$40,000 or \$50,000 a year, not by a good deal. There are several points in the Doctor's paper that I think need a little emphasis, and that is in the treatment of a carrier. If is were not for the carrier, we wouldn't have much diphtheria. My experiences in going through the schoolrooms after we had a developed case all showed up a carrier, 2, 3 or 4 as the case may be, and the care of those was sufficient to eliminate an epidemic. The smallest carrier, the youngest rather than we had, was a little baby of six weeks. This little one did not have diphtheria, had the sniffles; we took a smear and to our astonishment found Klebs-Loeffler. You all know how hard it is to get rid of the bacilli in the carriers. These people are perfectly well. They never have the disease. We have tried everything, silver in all its forms, silvol and argyrol, never made any impression until one day I told one of our doctors to use iodine. To our astonishment we got results in a few days. Some used the watery solution, take the normal tincture, dilute with water so as not to irritate too much; in others we used a stronger solution.

DR. I. D. RAWLINGS, Springfield: The triennial report of the last three years of Dr. Robertson's administration in Chicago came to my desk recently. I noted they have been giving toxin-antitoxin during that time to all children where parents signed consent cards. In 1921 over 13,000 children were immunized and they reported no ill results during the entire three years.

I was very glad Dr. Robertson spoke a second time, because I had a very distinct recollection of the change of policy in Chicago regarding the plan of disinfection. We used to fumigate houses and raise a big stink. Under his administration this was changed but not abolished entirely. People were told the Department would not remove the sign until they washed, aired

and cleaned up the premises. The amount of cleansing necessary was usually one or two rooms and the bathroom that was used by the patient and attendant. I think we are all agreed that fumigation is always wasted effort except that it causes them to air out thoroughly.

DR. C. S. SKAGGS, E. St. Louis: I wanted just a word from the standpoint of private work. In the past five years I rather considered it a reflection on myself to have a case of diphtheria in my own family. I speak this word just to show what we can do in private work. Three years ago I started an educational program among my own people. For the past three years I have not had a single case of diphtheria in families where I have supervised their health myself. I think if it could be carried out by one man it can be carried out by all.

DR. BROKAW, Jacksonville (closing discussion): I greatly appreciate the kindly comments on the paper. I am delighted to hear Doctor Earle's corroboration of the facts presented relative to the Schick test and toxin-antitoxin immunization.

THE GENERAL RÔLE OF X-RAYS IN THE TREATMENT OF BENIGN AND MALIGNANT TUMORS OF THE UTERUS.*

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Our present knowledge of the physical laws in accordance with which the x-rays operate demonstrates that until recently but few deeply situated malignant lesions ever received a therapeutic dose. The successful clinical application of x-rays and radium rays depends upon a thorough understanding of the physical laws governing the action of these two valuable agents. The rays emitted from radium and x-ray obey the same laws of physics. For all practical purposes therefore the rays may be considered as identical.

About two years ago we began the investigation of deep x-ray therapy. In collaboration with our Department of Biophysics an especial study of the intensities of x-rays was made, and our findings were compared with results already published. We were disappointed to find that the very great dosages anticipated were not obtainable under practical working conditions. As a result of our investigations we came to the conclusion that in most cases a therapeutic dose of radiation could not be safely administered to

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the most deeply situated malignant tumors by x-ray alone.

The favorable results of radium therapy and this knowledge of the limitations of the x-ray lead us to adopt a plan for the establishment of "a radiation therapeutic dose" by means of the combination of these two similar agents. This is accomplished by individualizing the patient by drawing on paper an exact cross section of the body at the site of the lesion, and indicating thereon the involved areas and organs. Our own charts which show the rate of absorption of x-rays or equal intensity curves are superimposed on the cross section at suitable portals of entry so that the sum of the intensities of the x-rays which reach any point from the various portals may be calculated. A standard chart showing the sphere of radium activity is then superimposed at the point of radium application and the combined radiation from the x-rays and the radium can be computed for any point in the cross section. By this method we are able to estimate and tabulate the exact dosage of radiation administered in any case.

Biological reactions: The biological effects of radium and of the x-rays are practically identical. Microscopical examination of tissues after destructive or therapeutic doses of either shows no distinguishable difference.

In general, the different types of cells apparently react differently to radiation and under similar conditions cells of the same morphology may vary in their susceptibility. As a rule neoplastic cells which are undergoing rapid mitosis are most susceptible while those which are most nearly like those of normal tissue are most resistant. After a destructive or therapeutic dose of radiation the cells undergo a process of nuclear hyper-chromatization, fragmentation and vacuolization which leads to eventual necrosis and repair by absorption and fibrosis.

Among the normal tissues the endothelial cells of the lymphatics and blood vessels are most susceptible to radiation. The swelling and necrosis of these cells produce an obliteration of the vessel channels which in turn cuts off the nutrition of the surrounding tissues. We believe that this result explains in part the favorable consequences of radiation. It is possible, however, that this effect is secondary and that

the primary therapeutic action is directly upon the tumor cells.

Since it is found that cells vary in their reactions to radiation it is necessary to consider separately the treatment of benign and malignant growths. It is obvious that the basis for the successful radiation treatment of tumors depends upon accuracy of diagnosis. In this symposium, therefore, we shall consider separately the application of radiation to fibromyomata and to carcinoma.

Fibromyomata: Chronic metritis and fibromyomata react very favorably to proper administration of radiation in properly selected cases. Until recently the results of radiation in these cases have varied considerably but since we now have accurate methods of measurement and a basis for the selection of cases we may anticipate more uniformity of results.

The selection of cases depends upon certain well defined conditions:

1. *The age of the patient:* No woman under 40 years of age should be subjected to radiation, as it tends to advance the menopause, although in certain cases there may be justifiable reasons for disregarding this precaution.

2. *Complications:* Certain coincident conditions may require special consideration:

- (a) *Inflammation:* Intensive radiation in the presence of chronic or acute inflammations or any evidence of inflammation within the pelvis is hazardous.

- (b) *Evidence of degeneration:* Irregularity of the menses or the character of the bleeding may indicate a malignant or inflammatory degeneration of the uterus or of the tumor which would require a different method of treatment.

3. *Size and form:* A tumor of any size may be reduced by radiation but those tumors that extend as high as the umbilicus may regress too slowly to relieve the rather distressing pressure symptoms. Pedunculated and sub-serous fibroids obviously demand surgical treatment.

4. *Pregnancy* contraindicates radiation, as abortion will probably be induced and it has been demonstrated that radiation may produce a monstrosity of the fetus.

After eliminating the groups of cases indicated above as unsuitable for radiation there remain about 30 per cent. of all cases of fibro-

myomata that may be safely treated by radiation. Relief of symptoms may be anticipated in 99 per cent. of properly selected cases, the percentage of complete cures averaging about 87 per cent.

Mode of action: There have been two theories regarding the action of radiation on fibroid tumors of the uterus—some believing that the primary action is upon the ovaries and others that the tumor cells themselves are immediately affected. The former group attempted to radiate only the ovaries while the latter directed the radiation to the tumor. Neither group has taken into consideration the endometrium. As a matter of fact, it is physically impossible to radiate either the ovaries or the uterus alone. We feel that favorable reactions are due to three causes—first, the inhibition or destruction of the graafian follicles and fibrosis of the interstitial tissue of the ovaries; second, direct action upon the tumor cells; and, third, changes of the endometrium by the action of the radiation upon the end arteries and lymphatics—the uterine membrane. So far as I can determine this last cited point has usually been overlooked.

1. The action upon the *ovaries* causes complete amenorrhea or reduces the frequency and severity of hemorrhage. The initial effect frequently is stimulation and the menstruation following radiation may be more severe than at any previous time. If the graafian follicles are not all destroyed normal menstruation may reappear after varying periods of amenorrhea and normal pregnancy may occur. In almost 99 per cent. of the cases menorrhagia will eventually be favorably influenced and controlled.

2. The *tumor cells* undergo a slow necrosis and absorption which may be due either to direct action upon the cells or to the destruction of nutrition by a blocking of the blood and lymph vessels. The end result is slow regression of the tumor which begins almost at once and extends over a period of from three to eight months. Obviously, the period of regression is in direct relation to the size of the tumor.

The immediate effect of x-ray radiation is a short period of nausea and malaise, especially if the dose is large. The skin may show erythema. Large doses may cause a diarrhea lasting for a few days.

The choice between radium and the x-rays in the treatment of fibroid tumors may depend

upon the availability of either or the economic status of the patient. In properly selected cases favorable results may be anticipated from each agent. Either x-ray or radium will eventually control hemorrhage, but the effect of radium is more quickly manifested in cases of severe bleeding because of its immediate action upon the endometrium; therefore, when the control of hemorrhage is urgently indicated, radium is the agent of choice. Although, as we have stated, the biological effects of radium and of x-ray are practically identical, x-ray will produce a more rapid regression of tumors and for this reason x-ray in comparatively large doses is to be preferred for the treatment of the larger tumors.

The economic status of patients must be considered in the choice of treatment, for radium therapy requires hospitalization, anesthetic and intra-uterine manipulation, while x-ray may be administered in divided doses without hospitalization. The menopause is brought about more slowly by x-ray than by radium so that by the use of the former the patient may become adjusted to the new condition very gradually. In skilled hands the danger from x-ray therapy is negligible.

Carcinoma of the fundus: As yet there is no sufficient basis for the substitution of radiation for surgery in the treatment of carcinoma of the fundus, for although as yet there are no reliable statistics upon the results of treatment of corpus carcinoma by radiation alone, it is highly improbable that radiologists can improve upon the results obtained by surgeons. However, from the standpoint of physics it is as easy to administer a dose of radiation to the fundus as to the cervix.

Carcinoma of the cervix: In considering the results of treatment of carcinoma of the cervix it should be borne in mind that, prior to the last three or four years, in all probability no such lesion received what we now consider to be a therapeutic dose of x-ray radiation. This is indicated by the fact that no better results were obtained by the combination of surgery and x-ray therapy than by operation alone. During the last ten years, however, the favorable results obtained by radium has limited the operation for carcinoma of the cervix to early cases. But the favorable results of radium therapy or operation depend upon the extent of the malignancy.

nant involvement, for although a therapeutic dose of radium radiation can be administered to areas beyond the reach of the knife or cautery, yet there remains a large group of cases in which the involvement is beyond the reach of either. Moreover, in any given case it is impossible to determine the exact extent of the carcinomatous involvement. These limitations of surgery and of radium demand the addition of the recently developed deep x-ray therapy in the treatment of carcinoma of the cervix.

We believe that the proper treatment of malignant disease must include surgery, radium and x-ray in such combination as is indicated by the individual case. In the treatment of carcinoma of the cervix, at present we believe that the combination of radium and x-ray radiation is the therapeutic method of choice. The uterus is the easiest organ to radiate, being centrally located in the pelvis so that an inclusive irradiation can be secured by the local application of radium in the cervix and by the application of x-ray through a number of portals about the body. By this combination we can secure a homogeneous radiation of the entire pelvis and its gland bearing areas with a large dose at the site of the primary lesion.

Not sufficient time has elapsed to permit us to draw conclusions in regard to the end results of deep x-ray therapy as applied to carcinoma of the cervix. Our own experience thus far leads us to believe that the patients treated by the combination of deep x-ray and radium therapy have been benefited more than those treated by surgery alone or by surgery and radium. Thus far we have refused no case. It is obvious, however, that in very late cases but little or no benefit may be expected. In the cases thus far treated we have observed an immediate cessation of hemorrhage and of pain and a more rapid healing of local lesions, an early softening and disappearance of induration and a more rapid convalescence than by any other method. The improvement has been most striking in the inoperable cases with rather extensive involvement.

The cases which have received least benefit have been recurrences following other forms of treatment. Curettement or biopsy for diagnosis should be immediately followed by radiation.

The contra-indications to radiation in cases

of carcinoma of the cervix are: (1) The presence of tubal infections; (2) The presence of far advanced disease; (3) A poor general physical condition, though these cases may be made radiable by blood transfusions. Secondary anemia or loss of blood is not essentially a contra-indication as radiation shortens the coagulation time of blood and transfusion is a simple surgical procedure.

The sequelae of radiation as described are not severe if the entire treatment is given in divided doses.

CONCLUSION

1. In properly selected cases of benign tumors of the uterus—i. e., women over 40 years of age without excessive bleeding, evidence of degeneration or inflammation—deep x-ray therapy alone is the method of choice. When menorrhagia must be checked at once, radium is preferred. All other cases are surgical.

2. In the treatment of carcinoma of the fundus, there is no present indication that radiation is to be preferred to surgery.

3. In the treatment of carcinoma of the cervix the combination of radium and deep x-ray therapy is the method of choice.

4. In general, in the treatment of malignant or of benign tumors, surgery, the x-rays and radium, should be used in such combination as is indicated by the conditions present in the individual cases.

DUODENAL ULCER AND ASSOCIATED CONDITIONS*

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During all these years of the development of differential diagnosis duodenal ulcer has been considered a disease *per se*. No attempt has been made to group or generalize conditions in regard to their pathogenesis. Duodenal ulcer has been one of those conditions. When we go back into the earlier years in the diagnosis of abdominal conditions they spoke of any disturbance in the right upper quadrant of the abdomen in terms of one of the many different pathological conditions which might be present. They considered gall bladder with all of its various abnormal conditions or gastric ulcer or duodenal

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ulcer or disease of the pancreas, or disease of the ascending colon especially the hepatic flexure or disease of the right kidney. Each one was spoken of separately without any regard to their continuity, or juxtaposition, little attention was paid to the progression of diseases or one might say to its natural development. When one spoke of ulcer it was either gastric or duodenal or else pyloric. We considered gall bladder disease as cholecystitis or gall stones; empyema of gall bladder being diagnosed if there was a marked elevation in temperature. Now we realize that seldom is one only pathological condition present.

Having learned that cholecystotomy often relieves and gives apparent cure for acute pancreatitis, the belief arose that infection of the head of the pancreas was the result of extension of infection from the bile ducts up the pancreatic ducts. Later mention has frequently been made of the simultaneous occurrence of chronic cholecystitis and chronic appendicitis. Co-existing duodenal ulcer and cholecystitis have very often been seen upon the operating room table. About 1909, Dr. E. P. Sloan observed bands of adhesions running from the duodenum to the meso-colon causing a kink at the duodeno-jejunal angle in a patient in whom both of these conditions existed. The general condition of the patient would not permit the completion of the operation. After he separated the most noticeable bands the abdomen was closed, the patient recovered and apparently had no further gastric symptoms except the extensive belching and the hyperacidity due to the gall bladder which was observed to be full of stones at the previous incomplete operation. Two years later this patient was again operated on, but no evidence of duodenal ulcer could be found. The gall bladder was drained and the patient has remained well to this day.

Several years ago I began the intensive study of conditions of the right upper abdomen. Included in this group of cases were a large number who have had prolonged medical treatment at clinics elsewhere without relief or only partial relief and the symptoms were only those of ulcer.

By means of the fluoroscope I was able to detect not only the ordinary adhesions between the pylorus and gall bladder, but what seemed to be partial obstruction across the duodenum. The

most noticeable of which were in the duodenal jejunal junction area. Just proximal to this point we would often observe an enlargement of the duodenum. We would watch this process until after the stomach emptied and we would then see a case of reverse peristalsis in the duodenum. Some of the barium remaining in this portion of the duodenum for an hour after the stomach emptied going back and forth sometimes even passing back into the stomach and again through the pylorus. A little over three years ago, I began the study of the duodenum by direct injection of barium and bismuth, and would then watch the duodenum empty. In the case of simple uncomplicated duodenal ulcer the fluid would pass on rapidly into the jejunum and on down.

When there were adhesions at this point reverse peristalsis usually could be demonstrated; these cases were often not complicated by gall bladder disturbance. In studying the duodenum you must use the fluoroscope fearlessly. The patient must be watched and watched carefully. The stomach must be moved at will by the diagnostician in order that the shape and the course of the duodenum may be seen. It has been my experience that the duodenum is most reliably studied following an ordinary barium meal at the time the last part of the meal is in the duodenum. We employ the other method, however, as it saves the time necessary to watch for the last portion of meal. We pay little attention to the duodenal cap, but consider the pylorus and duodenum as a whole, and from this we draw our roentgenological conclusions. Two points of tenderness are usually present, though more may be present, these two are tenderness over the ulcer itself and at a point immediately below the sternum. Tenderness may also be present in the region around any adhesions across the duodenum. Tenderness may also be present over the gall bladder and over the appendix. Pressure over any tender point almost invariably sets up a hypermotility of the stomach. We no longer consider hypermotility of the stomach as being necessary for diagnosis of duodenal ulcer, as in a great many of these cases an apparent hypomotility exists. While irritation in appendicular region or gall bladder is often accompanied with hyper-motility.

The question of hyperacidity or hypoaclidity does not bear much weight with us in arriving

at a diagnosis. The acid curve by means of the fractional test meal has no diagnostic significance. None of them apparently run true to any definite pathological condition, it is only an estimate of vagus irritation. We have found that a very weak solution of atropin sulphate injected into the empty stomach influences the secretion more than anything else, corroborating in his way the work of Bennett and Dodds. We do not believe that the finding of small amounts of occult blood either in the stomach contents or in the stool has any positive clinical significance, but the finding of a large amount of blood usually means ulcer.

From a clinical standpoint we find that these patients usually will give the classical story of pain coming on $1\frac{1}{2}$ to 2 hours after eating, or else the hunger pain and the relief of these pains by food, alkalies or vomiting. The gall bladder cases have much more belching, sometimes the belching takes place in paroxysms lasting for as long as 2 or 3 hours and the belching gives partial relief. Very often these patients complain of a pain in the left hypochondriac region due to the adhesions involving the duodenum and nothing seems to relieve this pain except the use of opiates. We have seen many patients who clinically appeared to have a carcinoma of the stomach. They were associated with loss of weight, pain immediately upon taking food, a hypoaclidity and vomiting of food taken from twelve to twenty-four hours before. These patients generally have had more or less obstruction of the terminal duodenum, sometimes with quite an acute kink at the point where the first portion of the duodenum verges into the second portion with a high degree of pyloric spasm; sometimes a partial obstruction at the terminal portion of the duodenum. Secondary anemia seems to be very common in this type of case.

Perhaps the symptom complex that comes to us most frequently from which the wrong interpretation has been drawn, is that type of gall bladder and ulcer in which the patient complains of very little pain upon the right side or in the right hypochondriac region, but complains greatly of pain extending up over the right side of the chest, or the patient says they have pain in the heart and then they think they bloat somewhat in the left hypochondriac region. Sometimes this pain will go around to the left shoulder blade, or extend up over the chest and

down to the left arm, but more frequently they will say that the pains run around under the breast. This type of patient is more apprehensive than the usual gall bladder or ulcer patient. If you question them very closely you will generally find that belching gives them partial relief. The fluoroscopic examination gives you a definite diagnosis.

The treatment of these various conditions depends entirely upon the diagnosis which may be purely medical or it may be a combination of surgical and medical or sometimes purely surgical. The simple uncomplicated duodenal ulcer will practically all of them respond to medical treatment. When there is a gall bladder involvement without adhesions and you do not think that stones are present, the ordinary modified Lainhart diet and treatment plus medical drainage of the gall bladder gives most efficient results. When adhesions between pylorus and gall bladder are present it is sometimes only necessary to surgically break up the adhesions and follow with medical treatment for the ulcer, but in our experience surgical treatment of the gall bladder itself has given the most satisfactory results. When the obstruction in the duodenum is due primarily to the ulcer either from its high inflammatory condition or from cicatrization then gastroenterostomy either with or without excision of the ulcer is indicated, unless a definite partial obstruction in the distal portion of the duodenum can be demonstrated. Then relief of this obstruction makes gastroenterostomy less indicated. Stones, of course, are always an indication to do either a cholecystotomy or a cholecystectomy, but one should always look for the presence of bands stretching across the duodenum.

The control of the acid condition in the stomach depends entirely upon the individual. Sometimes alkali is sufficient to overcome this and again we combine atropin lavage of the stomach with the alkali, and not unfrequently we find that dilute hydrochloric acid the best depressor of gastric secretion. The diet employed may be any of the various modified Lainhart diets, the only requirement being that it has a quick emptying time in the stomach. Contrary to the old idea that if you cared an extra gastric irritant such as the gall bladder, appendix, tubes, ovaries, that your hyperacidity or so-called "Reichmen's Disease" would be

overcome, we find that it is necessary not to neglect the actual medical or surgical treatment of ulcer when present.

CONCLUSION

1. Duodenal ulcer is usually caused by duodenal stasis from partial obstruction due to adhesive bands of malformation at the duodeno-jejunal junction.

2. Duodenal ulcer is usually associated with pathological conditions of the adjacent viscera.

3. Definite diagnosis of duodenal ulcer and its associated pathological conditions is possible only by careful study and roentgenological facilities.

4. Medical treatment is sufficient only in the uncomplicated ulcer.

5. The medical treatment of duodenal ulcer is as important as the surgical, and should always follow for a considerable time after surgical treatment.

DISCUSSION

DR. GEORGE W. PARKER, Peoria: I am glad to hear Dr. Deneen bring out some new phases of the subject of duodenal ulcer. This has been heretofore, especially in regard to treatment, a field which has been full of controversy. If you listen to papers in the surgical section, you think that all of these cases or most of them should be treated by surgical intervention. And if you hear a paper in the medical section, the weight of opinion is for medical treatment. I believe part of this controversy can be cleared up by more careful study of the cases at the time the diagnosis is made. The question of careful x-ray and fluoroscopic study of the duodenum is very important. A great many, I fear, attach too much importance to the study of the duodenal cap alone. If you get a cap well filled out, you say no ulcer. If you get a deformed cap, you say you have a duodenal ulcer. In broad terms, you should make a more careful study of the barium meal as it goes through the second and third portions of the duodenum and also a study as to the stasis occurring in the duodenum.

The point Dr. Deneen brought out in regard to adhesions at the duodenal-jejunal angle I think is extremely important. If you get strong adhesions at this point you have a condition sometimes similar to what you get in the stomach when you have pyloric stenosis. There is retention of the barium meal.

There is no question but that factors like this explain why medical treatment fails in a good many cases.

The doctor mentioned the point that ulcer of the duodenum is largely due to the adhesions and obstruction of the duodenum. I think it might be well to stress the importance of focal infection and the localization of infection in the duodenum as being the most active cause in these cases and that the adhesions

and deformities of the duodenum are predisposing factors and not the active cause.

DR. EDWARD BOWE, Jacksonville: This paper suggests the advantage of having in mind the entire pathological picture in considering the question of duodenal ulcer. In many of these cases it is of the utmost importance to determine as to whether the ulcer is a single symptom in a symptom complex due to infection in other parts of the body, or due to a localized pathological condition within the gastro-intestinal tract. Early recognition of these facts should determine the type of treatment and the prognosis.

In the paper under discussion, mention was made of adhesions, and in my opinion, where adhesions are marked and rather extensive, they are strongly suggestive of pathology beyond the ulcer.

I have now a case in hand where a patient suffering from septic sore throat, developed an endocarditis and a carditis. These within a short time were followed by duodenal ulcer. This patient suffered first from an acute infection in the throat with a secondary bacteremia, and the whole symptom complex in my opinion was due to infection.

No doubt in many gastro-intestinal conditions considered as such, the role of infection enters and many of our failures in treatment are due to failure in recognizing the full pathological picture and directing treatment along lines directed towards the basic pathology.

DR. SIDNEY A. PORTIS, Chicago: It is very difficult to generalize on any certain form of treatment for a duodenal ulcer. One must consider the patient as an individual. In the first place, one has to consider whether the patient has had any previous medical management and whether it is an uncomplicated ulcer. If the patient has had previous medical management, and that medical management has been accurate medical management, and the patient is not well, then one ought to seriously consider the question of surgery. If the patient has not had any treatment and there are no other complications, then the patient ought to have the benefit of a thorough course of medical management, and that implies three things. In the first place, as one of the doctors said, an accurate knowledge of the pathology existing in the patient. We hope and try to remove every possible source of infection in a patient before we put him to bed, and then we put him to bed for six weeks. Lastly, after this hospitalization, we impress upon the patient that the medical management of his ulcer may have to go on for six months, a year, or even two years, but, of course, during this time the patient is on a fairly liberal diet. He must be told that the scar is just as likely to have a re-infection as the original ulcer.

I think one of the reasons for failures in medical management has been that the patient discontinues treatment as soon as the symptoms subside after hospital management. I don't believe that ulcer can be cured in six months, or even a year, unless a careful dietary regime is followed after the patient has been hospitalized. One's judgment as to the type of treat-

ment should depend largely upon the impression gained from the x-ray observation. If one sees a filling defect of the cap, and after the cap has emptied there is a small plaque left, one must seriously consider whether or not you are dealing with a perforated ulcer or one in the act of perforating, and it is this type of patient that it is questionable whether or not to put on medical management.

In our type of medical management we put the patient to bed, we feed him rectally for one week with soda bicarbonate and tap water. We then follow this up with peptonized milk feedings, the tube being down in the jejunum, and this is continued for one week, with an addition of eggs, peptonized, and orange juice between feedings. After this we start the patient out on frozen milk feedings and gradually increase a diet so that at the end of six weeks the patient leaves the hospital on a fairly liberal diet.

It is with this type of management that we have seen our best and more lasting results.

DR. LEON BLOCH, Chicago: There are some very interesting developments in the pathology of duodenal ulcer which tend to take us back to former times when it was believed that most of the pathology was arterial in origin.

There is some work in progress now at the Michael Reese Hospital by Dr. Joseph Friedman, showing that a good many cases of duodenal ulcer are not simply one ulcer but several ulcers. We have seen patients who continually have recurrences, where one ulcer treatment will be followed by a cure and subsequently by recurrences. These cases are probably not all recurrences of the old ulcer but are ones in which new ulcers develop.

Histological examination has shown scar tissue indicating that ulcers are frequently multiple and that arterial changes consisting of sclerosis or the arterial wall are the cause.

Another point of interest, important because of increasing the difficulty in the treatment, is the presence of a very thick serosa over the duodenum. Those of you who have done surgery work or watched these cases operated upon, have no doubt seen a large number of duodenal ulcers showing a thick membrane-like serosa around the duodenum. This is probably a fibrous covering in the nature of reactive inflammation. Conditions of this sort aggravate the ulcer and inhibit the healing powers.

Many ulcers present a great thick circular defect with a big overhanging margin. These cases will never be cured by medical measures. Sooner or later stenotic signs appear and cure will not be effected except by surgical measures.

This very interesting report of Dr. Deneen is right in line with the findings of the thick membrane around the duodenum, as adhesions are not infrequent with this process. The probabilities are that ulcers occur not only in the duodenum but also in the jejunum. Quite a number will have this peritoneal thickening and adhesions and as a result, will be difficultly treated by medical measures.

DR. FRANK SMITHIES, Chicago: It is certainly a very encouraging condition of affairs when we have a group of men, such as now gather together, who say so little regarding treatment and so much about uncertainties of diagnosis and pathology.

What is particularly peculiar about the ulcer situation is that for the last fifty years, without any chemical or pathological backing, men have been advancing schemes of treatment similar to what they did forty years ago in, for example, typhoid fever; treating the local condition in the alimentary tract instead of treating the bacteremia. A similar situation now presents itself in regard to the medical situation of ulcer management.

It is to the surgeon who has gone ahead and taken a look that we owe our present, though incomplete, knowledge of the pathology of peptic ulcer. It is to the bacteriologist who has worked hand in hand with the surgeon and to the histologist that we owe our knowledge of infective factors in ulcer and associated pathologic changes.

Now, it seems to me, it is up to the internal medicine man to make accurate observations first hand, correlate them and not to carelessly speak about "ulcer cures." In this sense "ulcer cure" has been confused with "K U R," meaning a system of management, and not a treatment resulting in the absolute eradication of the disease.

I have heard a lot and have seen a good deal of the treatment of duodenal ulcer; it seems to me that the universal, nonsurgical treatment of duodenal ulcer has been like that of gastric ulcer. There has not been developed any special or rational treatment for duodenal ulcer, with the possible exception of that calling for the introduction of the duodenal tube, which tube, theoretically, is supposed to cure by introducing food beyond the ulcer site. The treatment which is so commonly carried out, is simply the treatment of gastric ulcer, and even that treatment is on an insecure foundation, as shown by modern researches.

It appears to me what is first needed is *investigation* and not treatment; not talking to people about "curing" ulcers and saying that if they have an acidity of so much they require an alkalinity of so much. Nobody has ever proved that ulcer of either duodenum or stomach is due to excess acidity. All modern investigation tends to the opinion that in ulcers of the stomach or the duodenum we are dealing with the local manifestation of a systemic ailment. It is just as useless a procedure to attempt to eradicate the disease by powders and pills as it would be to attempt to eradicate arterial sclerosis from an individual by such methods.

What we need is further investigation, and in the meanwhile treating the patient who has the ulcer, rather than devising complicated and ingenious schemes to treat an alimentary tract sore spot, which lesion varies not only from month to month, but even, as one of the discussants said, while we have the pa-

tient in the hospital, presumably in the most favorable surroundings.

DR. DENEEN (closing): The individualizing one man spoke of I believe is necessary in every condition. I believe that is accepted in our line. You must take your patient and study that patient, not just study him to see if that patient has an ulcer. That is a minor consideration. For what else exists along with that ulcer?

As for the etiology of that ulcer, of course we are inclined to believe it is an infection. Probably the infection is primary and again it may be secondary. I don't believe anybody so far has been able to work out a means of eradicating the original focus of infection and then getting a complete cure of the ulcer, either in the stomach or duodenum.

Where all these focal manifestations might come from is hard to say but it is a well-known clinical fact that at the time the patient presents himself to you with an ulcer, that ulcer is of long standing. We know that the first symptom of ulcer is not pain, but that is a later development. It comes much later than the original desquamation area or destruction of the epithelium.

Then from the standpoint of the multiple ulcer. I think those of you who have followed the cases that go to the operating room table very frequently see ulcers in both the stomach and duodenum at the same time. You also very often see more than one ulcer in the stomach and we have seen more than one ulcer present in the duodenum at one time.

Of course, the question whether the patient has had previous medical treatment or not brings out the real object of this paper, that is, to make a definite diagnosis as to whether your patient is properly a medical patient, purely medical in regard to treatment or whether it is a surgical condition or whether it is a combination of both medical and surgical. The condition alone justifies the conclusion and not the line of treatment which you follow out justifying the condition.

One man spoke of rest in bed for six weeks. I treated practically all ulcer cases medically at one time. I used to keep them in bed for six and eight weeks. I don't find that the rest in bed makes a very great material difference. Of course, the first few days rest in bed, when they are on light diet, undoubtedly does help the general condition.

When it comes to bacteremia, which means a condition like typhoid in which there are volumes of organisms floating in the blood stream, it is pretty hard to speak of an ulcer being the localization of bacteremia like you speak of pneumonia being the localization in the lung of bacteremia because I don't believe anybody has been able to produce any blood cultures from ordinary ulcer cases. And so I think it would fall better in the category of focal infection where occasionally you get some organisms breaking loose into the blood stream and localizing the disease.

And we don't speak of cures in any special case. As a matter of fact, we doubt if we can really cure

anything any more. When a patient comes to you, it is the duty of the physician to make life more pleasant, more comfortable, more helpful to that patient. If we are going to do it from a purely scientific standpoint and ignore the humanitarian side of the patient, then we can screen off the focal infections until doomsday. It is our first duty to take care of that patient and render that patient economically improved and socially improved and more contented with himself.

It is impossible to generalize either any treatment or any diagnosis. To generalize treatment means that you do not make a diagnosis. And the entire object of this paper was that we reach the point where we could more definitely diagnose our conditions and their associated pathology and in that way know more about what would be the more rational form of treatment to follow.

I think if you will study more carefully your patients as they come to you that you will be better able to give individual treatment to that individual patient and in that way render greater service than in the old way when we said they should have a gastro-enterostomy or whether they should have straight medical treatment. And the controversy you hear generally in the gastro-enterostomy section is usually one of surgery versus medicine. At the last A. M. A. meeting, one of the discussions of the most value was the x-ray or the history. It is the condition of the patient as a whole and your x-ray is just part and parcel of your history because your x-ray shows you simply the physiology and sometimes gives you the interpretation of the morbid pathology, and so I believe, as most every other one that discussed the paper did, that we should individualize, and in order to individualize we must first individualize the diagnosis.

BROKEN GLASS ELECTRODE IN BLADDER

C. H. SOLOMON, M. D., AND J. M. GLASSER, M. D.
CHICAGO

A practice that is to be heartily condemned is the introduction of glass instruments into the urethra and bladder. First, the glass instruments have no advantage over metal ones, and, second, their liability to break is so great that even if there were an advantage it would be foolhardy to risk their use.

Glass female catheters and glass urethral electrodes should be relegated to the museum of medical antiques, and although most men have discarded the use of the glass female catheter, still there are some men who believe in the use of glass urethral and bladder electrodes.

A case which recently came under my ob-

ervation was one in which a doctor attempted to cure cicatricial strictures of the urethra with vacuum high frequency treatment. He introduced a glass electrode into the urethra the shape of a Van Buren sound, and treated the patient



Fig. 1. Radiogram of Glass in Bladder.

in this manner for about two months. On the afternoon of the day on which I first saw the man, his doctor upon removing the glass electrode found the distal three inches missing and where the curved portion of the electrode had broken off, the edge was rough and ragged. The patient suffered no inconvenience from the presence of the broken piece of glass and came to my office with his doctor. I advised an immedi-



Fig. 2. Glass After Removal.

ate x-ray of the bladder, and the plate showed the broken piece of glass laying transversely in the bladder. As any attempted removal through the urethra involved the greater risk of breaking the glass and injuring the bladder and urethra, a supra-pubic cystotomy was decided upon and done the following morning. The piece of glass electrode was removed and the bladder closed without drainage. The patient made an uneventful recovery.

29 E. Madison St.

CRETINISM IN NORTHWESTERN ILLINOIS.*

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Cretinism is a disease that robs its victims of the inherited right to normal physical and mental development. It robs the little one of its freedom of action, and its ability to prattle to its parents and playmates. It steals away the happiness of childhood, and condemns its victim to hopeless idiocy. It robs the parents of the pleasures of parenthood, and makes them ashamed of and sorry for their offspring. It sets aside its victim as an object of curiosity. In the words of Osler it makes a "toad like caricature of humanity." Yes, a caricature of what we are told was created in the image of God.

The disease is a chronic condition, congenital, or developing in early infancy; or its development may be delayed until the child is several years old when the juvenile form appears.

The etiology of the disease is not definitely known. Some hold that it is due to an intra-uterine infection of the fetus that destroys or prevents the development of the thyroid gland. I am of the opinion, however, that the condition is due to too great an iodine content in the mother from which the fetus gets a quantity sufficient to supply its wants, and thus causing a failure of development of the thyroid anlage, or an atrophy of the gland after development has started.

In all cases the gland is at fault, and is found either absent, or atrophic and undeveloped.

Cretinism is not uncommon in northwestern Illinois. Whether the geological formation of this region has any thing to do with the cause of the disease, as far as I know, has not been determined. Suffice it to say that at one time the district was under the sea, and received deposits of sand, calcareous materials and mud which were later cemented to make the hard rocks of the region.

Sometime after the Mid-Silurian period the region emerged from the sea for the last time, and after undergoing several cycles of erosion, glaciers advanced depositing drift and filling the main valleys with debris.

Goiter is common in the district, and is fre-

*Address before Jo Daviess County Medical Society, August, 1923.

quently seen in adults, both male and female. Myxedema is also found and I am of the opinion that it is more common than the number of cases reported would indicate.

Inasmuch as we find the three diseases, cretinism, goiter and myxedema all related to pathology of the thyroid gland it would lead one to suspect that there were something indigenous to the region causing them.

The ear marks of cretinism are so striking and stand out so prominently that no case should be overlooked. However, there are cretinoid conditions that decidedly retard the growth and mental development of some children in whom the prominent indications of the disease are lacking.

In well marked cases of cretinism the physical



Fig. 1.

Fig. 2.

Fig. 3.

and mental findings run true to type. The expression is dull, apathetic and idiotic. The face is broad. The eyes are wide apart. The lips are full and separated. The nose is stubby and broad. The head is large and rounded. The hair is scanty, coarse and dry. The skin is dry and in some cases quite scaly. The form is rounded, and the supra-clavicular regions full and prominent. The neck therefore is short. The abdomen is full and protruding producing the condition termed by some "frog belly," and resembling on a miniature scale that of the old time beer drinker. The legs are short and well filled out. About the knees, ankles and wrists are masses of tissue as are well shown in the pictures.

The child's development is retarded. He

learns to walk two or more years later than the normal child. His gait is slow and awkward. He is clumsy, and his legs are somewhat stiff.

If he learns to talk at all it is done with difficulty, and he may be anywhere between five and ten years old before he is able to say the simplest monosyllabic words. Sight and hearing in the cases that have come under my observation were good.

The mentality is that of idiocy. Such is the fate of these little fellows, unless the condition is recognized early and proper treatment instituted and carried out indefinitely.

The cases that I herewith report were found while calling on other members of the families, and as far as I could learn from the parents the condition had not been diagnosed before. None of the children, so the parents told me, had been given anything for the disease.

Case 1. L. W., figures 1-3. Age three years. Parents are not related. They are young people in good circumstances, and both are healthy. Neither shows indications of thyroid trouble. One other child in the family, a normal, well developed youngster. The mother had no difficulty at the birth of L. W. This child, although three years old, cannot stand alone. He has never uttered a syllable. He creeps about the floor, and eats and sleeps well. He has been healthy as far as his general health is concerned.

By reference to the pictures of this child—Figs. 1-3—which were taken in 1918, the following conditions will be observed: The head is large and well rounded. The hair is scanty; face is broad; wide between the eyes; lips thick and parted; neck plump and short. The supra-clavicular regions are full. The arms are plump and about the wrists are prominent masses. The abdomen is large and protruding. The thighs are reasonably full and rounded. The knees and ankles show fullness corresponding to the condition of the wrists. The feet are flat and broad and the great toe separated from the others. The expression is dull and stupid.

Diagnosis: Cretinism.

The condition of this child was explained to the father, the mother being seriously ill at the time, and he consented to let me have pictures of it and to start treatment. Thyroid gland tablets were given, starting with one grain once daily. This was increased to two grains twice daily, which seemed to be a proper dose for this child, and continued for about three months. During this time the child made some improvement and began to walk.

The mother of the child having died from the "Flu," the little fellow was turned over to one of his grandmothers. She, evidently not satisfied with the progress being made, took him to some faker in Minneapolis to whom a goodly number of our intelligent (?) citizens were making pilgrimages. Later I

got from the father that this fellow, one Dunn, a monk of some kind, told them that the child would outgrow the condition.

They were satisfied with the information, and stopped all treatment. The father recently told me that he has not given the child anything since he quit giving the tablets, but recently has been having a chiropractor work on him, and that this bird said he could cure him.

The child is now past seven years old. He walks with a clumsy, waddling gait. Will not sit on a chair, but sits on the floor with his legs folded under him. Speaks very few monosyllables. His mouth is open with dribbling of saliva. His expression is idiotic. This child, under his present environment, is doomed to hopeless idiocy, and if he lives to maturity will without doubt become a public charge.

Case 2. Figures 4-6. C. D., aged past six years. This boy has healthy parents. Several other children in the family, all healthy. Mother had no difficulty at the birth of this child.

Physical characteristics: Head is large; face is broad and wide between the eyes; lips thick and parted; neck short; supra-clavicular regions full; arms plump with wrist full and rounded. Legs are full and well rounded with thickness of tissue about knees and ankles; feet broad and flat with the great toe separated from the others; abdomen large and protruding. Expression is dull, apathetic and idiotic.

The mother informed me that he was always a particularly fat and plump child. He learned to walk after he was three years old. He does not talk. He has never uttered a word that could be understood by the parents. He hears and understands what is said to him and will do simple things told him to do.

Diagnosis: Cretinism.

The father started to give this child treatment and continued for a few months, but for some reason discontinued.

The child is now past ten years old. He walks with a clumsy, waddling gait. His expression has changed very little. His mental condition is idiotic. His parents started him to school last winter, but his teacher told me that she could neither understand what he attempted to say, nor could she do anything with him. He would not obey, and would leave his seat and go about the room at will.

This child also has fallen into the hands of the Philistines—the chiropractors. Another little one doomed to hopeless idiocy, and undoubtedly will eventually become a public charge.

Case 3. C. L. Figures 7-8. The pictures of this child show few of the indications of true cretinism. In fact he is quite a fine looking little fellow.

At the time of taking these pictures he was six and a half years old. He was a twin. The mother had no trouble at his birth. His twin brother was born first, and for the first half year was the heavier of the two.

At about six months of age he began to get fat, and

soon was ahead of his brother in weight. By the end of the first year and a half he had become so fat and puffy that the grandmother nicknamed him after a well-known portly young man about town.

He learned to walk after he was two and a half years old, and then in a clumsy, waddling fashion. Now at the age of six and a half years of age he does not talk. He understands all that is said to him, minds well, and will do things told him by the parents. He will attempt to say simple words when told to do so, but acts very diffident and bashful about his attempt. He has strabismus as can be seen from the picture, Fig. 7.

In comparison with his twin brother he has a larger head, and coarser hair, a much larger abdomen, and a slight thickening of tissue about the wrists. He has never been as active, his gait is stiff and awkward.



Fig. 4. Fig. 5. Fig. 6.

He was first seen by myself in January, 1922, and from the history and physical findings I would not call him a real cretin but consider his condition due to hypothyroidism—otherwise a cretinoid.

He was given desiccated thyroid gland, starting with one grain once daily and increasing to two grains twice daily. He continued to take this for four months when he passed from my care.

I was told a few days ago that he improved greatly while taking the medicine, and that during the past winter he had gone to school and was learning to talk.

Case 4. C. H. Aged five years and eight months at the time he came under my observation. His mother asked me to see him because of his rough skin and because he did not talk. She gave the following history of him: He is the second child. His birth was normal. He nursed until two years old. He was nearly three before he learned to walk, and has always walked with a stiff, clumsy gait. He was a

fat child with a big abdomen. Lips thicker than those of the other child.

Physical examination: His head is large and round; hair fine and dry; face broad; his body is fat and plump; his arms and legs are full and well rounded, with small rings of tissue about the wrists and ankles; abdomen full and protruding; skin very rough, in fact in places it approached a condition of ichthyosis. He walked with a stiff, awkward gait, and was very clumsy. He could say simple words. He understood what was said to him and would do what he was told to do.

He presented many of the earmarks of true cretinism, but his mentality and general appearance was better than that of the true cretin. Therefore I would call him a cretinoid.

He was put on desiccated thyroid gland, starting with one grain once daily and increasing to two grains twice daily. This was kept up for six months. During this time his skin cleared up and became smooth, and he began to walk with more freedom, and he



Fig. 7.

Fig. 8.

made remarkable improvement in his ability to talk. He is now past seven years old. He went to school last year and did as well in his studies as the ordinary child.

Besides these cases I have seen two others in this vicinity that showed all the indications of true, fully developed cretinism. One a boy about seven or eight years old, and the other an adult female. The latter would make an ideal model for all the pictures shown in text-books treating of this subject.

The parents of a child that has a prominent protruding abdomen, rough skin, large rounded head, expression dull, apathetic and idiotic, a broad face wide between the eyes, nose stubby and broad, thick parted lips, and does not begin

to walk and talk at the average age of around fifteen months should take the child to the family physician for a careful physical examination. In fact it would be better for the child possessing some of the above mentioned conditions for the parents not to wait to see if the little fellow begins to walk and talk at the proper age, especially if he is not what is called "a bright baby," but to have the baby carefully examined as soon as they notice that the child is markedly different from former babies of the same parents or from babies of their acquaintance.

The earlier treatment is instituted in these cases the quicker and better results are obtained. There is but one treatment for such cases and that is the proper dosage of thyroid gland, which must be kept up indefinitely.

This treatment is absolutely necessary for the proper mental and physical growth and development of the child. No amount of manipulation, "osteopathic" or "chiropractic," can do any good. All the cases whose pictures are given had "chiropractic" adjustments. Figs. 7 and 8 was rescued by the use of thyroid treatment, the others are doomed to hopeless idiocy.

I believe that it would be to the best interest of children afflicted in this manner, as well as to the best interest of the state, if all cases of infantile or juvenile cretinism, determined as such by a committee of at least three physicians appointed by the judge of the county wherein the parents of the child resides, were committed to a state institution for treatment, there to remain at the expense of the state until the physical and mental condition is such as to justify his return to his parents with a reasonable certainty of him developing into a self supporting citizen.

It has been my experience that the parents of a cretin will not continue treatment long enough to do the child permanent good.

While visiting a hospital recently a well known clinician showed me a cretin, and made the following remark: "It would not be so bad for such children if the parents would carry out the treatment, but they won't do it."

Therefore, I say that it should be the duty of the state to take charge of these little fellows and give them their chance to grow into normal mental and physical development.

OBSERVATIONS ON 200 TONSILLECTOMIES

RUSSELL D. ROBINSON, M.D.,
CHICAGO

It is interesting to note in Holt's "Diseases of Infancy and Childhood" in 1912 the statement that "It is seldom that any but good results follow tonsillotomy, if properly performed," and again "I am not yet convinced of the advantages of complete enucleation . . . but in certain cases nothing else is adequate." That is only 11 years ago, and opinions have so

results are based on a period of from 1 to 7 years' observation.

I performed tonsillectomy on all of these cases; adenectomy was also done on all children and on 16 adults. Circumcision was done simultaneously in 16 instances, carious teeth were extracted in 5 cases and other minor procedures in a few instances. On only one occasion was tonsillectomy performed coincidently with laparotomy. Twenty-nine patients were operated on in my office and the remainder in the hospital.

Tonsillectomy was done on 51 children, who had "popping" tonsils with a Beck tonsillectome, and enucleation by dissection and snare was done on the other 149 patients. Ether anesthesia with or without nitrous oxide induction was used in all operations.

There were no deaths, directly or indirectly, resulting from this series of 200 cases. I have had almost all of these cases under observation for a period of from 1 to 7 years, except for 11 months' absence in army service.

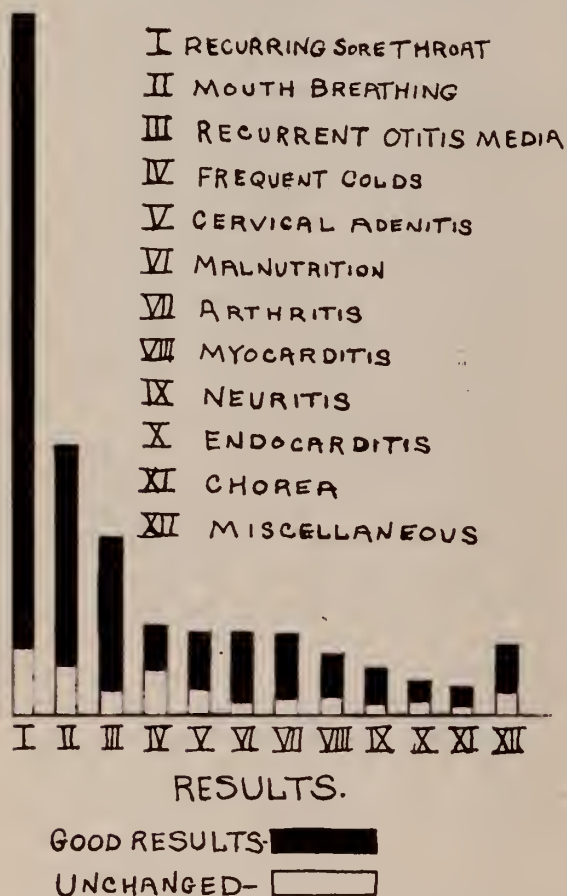
Indications. Before taking up the various indications for tonsillectomy, I wish to emphasize the importance of complete physical examination in each instance, bearing in mind the possibilities of associated pathology before tonsils are incriminated.

Carious teeth, pyelitis, nephritis, secondary anemia, sinusitis and refractive errors, are some of the commoner disorders which must be ruled out as wholly or partially responsible for the symptoms for which tonsils and adenoids may be blamed.

Overlooking these and other pathological entities, operating for trivial or fanciful reasons, and incomplete removal constitute the causes of failure.

1. *Recurring Sore Throat.* Under this caption I include any type of inflammatory disease, except the specific infections as diphtheria, scarlatina, etc., in which Waldeyer's ring, consisting of the two faucial tonsils, the pharyngeal tonsil or adenoid, and the lingual lymphatic masses are involved. Any component of this group of lymphatic tissues, by extension, usually involves the rest.

Anatomically this area offers an ideal retreat for bacteria—the adenoid tissue tucked up behind the nose, the tonsils with their crypts. Bacterial invasion here, when once established,



changed, that we now use every refinement of technic to secure complete removal of the tonsil with capsule intact, and expect failure in results if a part of the tonsil is left in the throat.

This survey covers 200 cases, 78 adults and 122 children:

The ages of the children average about 5½ years, the youngest three and the oldest 14 years. The last cases included in this report were operated on in 1922, and the first in 1916, so the

is tenacious. We see such cases get a tonsillitis in the fall, with constant recurrences until late spring—an area of low resistance continually subjected to irritation, with the infection harbored ready to ignite any moment.

2. *Mouth Breathers.* In this group, comprising 32 children and two adults, the obstructive symptoms were taken as the most outstanding indication.

General ill-health, under nourishment, pasty complexion and nervous irritability were concomitant symptoms noted in some, as well as such associated changes as carious teeth, otitis media, adenopathy, chest and palate deformities.

Disturbed sleep and retardation of mental growth was noted occasionally.

Wherever possible carious teeth were removed before operation.

3. *Recurrent Otitis Media.* I feel that one attack of acute otitis media, whether it reaches the purulent stage or not, is sufficient to warrant removal of the tonsils and adenoids.

If tonsillectomy ever becomes a prophylactic procedure, ear extension from diseased tonsils and adenoids, will be one important factor in effecting it.

Some of these patients had otorrhea, others were operated on as soon as inflammatory reaction in the throat subsided after an acute attack of ear ache.

Ear involvement was a complication of scarlatina and measles, as well as head colds in this group, which comprises 19 children and one adult.

4. *Frequent Colds.* Under this heading are included 10 cases, nine children and one adult. The presence of infected lymphoid masses in the throat and naso-pharynx predisposes to head colds, which in turn usually eventuate in a bronchitis or ethmoiditis. These throats are predilected by the current infections. We so often hear mothers complain that "any cold always flies to Johnnie's throat," which usually means that the infection in the throat from the last cold has merely re-established itself.

5. *Cervical Adenitis.* Eight of the nine patients in this group are children.

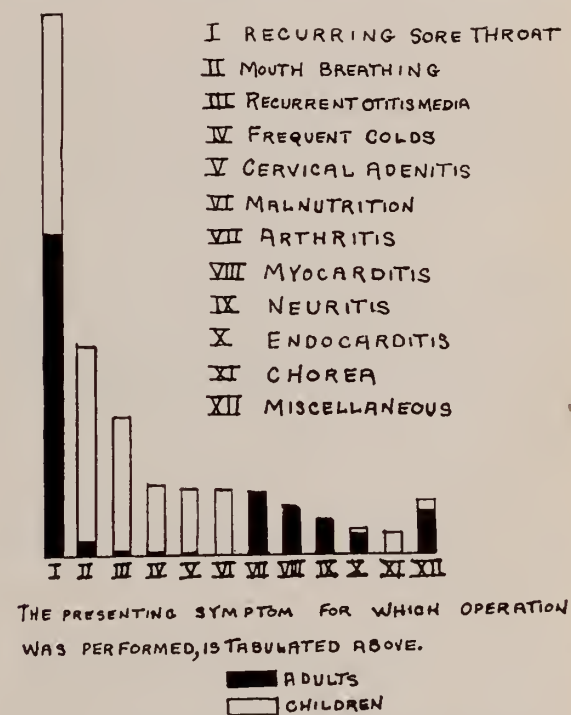
Those cases with adenopathy of the cervical region, as part of the general glandular activity of childhood, and those with adenitis from carious teeth or neighboring infections, are, of

course, not included as indications for tonsillectomy.

The adult case in this group proved subsequently to be of tuberculous origin. The glands just beneath the angle of the jaw, and running down beneath the sterno-cleido-mastoid muscle, are most frequently involved in tonsil and adenoid infections.

One six year old boy had three acute attacks with swollen cervical glands and brisk febrile reaction, in as many weeks, with only a trivial tonsillitis.

6. *Malnutrition.* Nine children presented the above indication for removal of adenoids and tonsils. Where other causes can be elimi-



nated, such as nephritis, secondary anemia, improper or poor food and faulty hygienic surroundings, this type of patient almost always shows a satisfactory improvement.

Still, in his "Common Disorders and Diseases of Childhood," attributes the excellent results achieved in tonsillectomy for undernourishment partially to removal of the cause which interferes with sleep and which causes nervous irritability.

7. *Arthritis.* I tonsillectomized five men and 4 women, as a curative measure for joint involvement.

In five of these cases, operation was done as

soon as the inflammatory reaction in the joints and throat had subsided sufficiently after an attack of acute rheumatic fever to safely allow operation.

In one patient who had had almost all major joints involved, and had been in bed six weeks under medical care, tonsillectomy was performed before the joint symptoms had entirely disappeared. Following operation there was an acute exacerbation of the arthritis, which lasted for three days, followed by prompt recovery, without a twinge of joint pain for the past 18 months.

Polyarthritis of a subacute type in the fingers, ankles, back and other joints was considered an indication in the other three cases, all of whom had diseased tonsils.

8. *Myocarditis.* Myocardial involvement, as exemplified by dilatation, dyspnea on exertion, hypertrophy and arrhythmia, occurring in patients with diseased tonsils was considered indication for operation in six instances, all adults.

9. *Neuritis.* Neuritis was the indication for operation in three women and two men: one a multiple neuritis, associated with tibial periostitis, alveolar abscesses, empyema of the right antrum of Highmore. Two were sciatic neuritis, one associated with pyorrhea and abscesses at apices of three teeth, and one involved the ulnar and the other the intercostal nerves.

Besides the associated pathology in these five cases which was taken care of before tonsillectomy was performed, all had definite disease of the tonsils.

10. *Endocarditis.* Three adults and one child were tonsillectomized for endocardial involvement. All had hypertrophied infected tonsils, with concealed foci of suppuration and each exacerbation of the throat infection produced a corresponding flare up in the cardiac symptoms. No less an authority than Forchheimer recognized in 1917 the importance of complete enucleation of infected tonsils in these repeated attacks of endocarditis.

11. *Chorea.* Three children with subacute cases of Sydenham's chorea, were subjected to tonsillectomy as a part of general treatment. One girl of seven years had endocarditis—all had infected tonsils.

12. *Miscellaneous Cases.* Under this caption I include seven cases, four adults and three children.

One child suffered from headaches for which I could find no other cause than obstructive symptoms from hypertrophied tonsils and adenoids. Two children had iritis, one with keratitis also, which I considered metastatic from the throat infections.

One man had recurrent attacks of lumbago, usually preceded by tonsillitis. Two complained of "run down" condition with sticking pains in the throat on arising, which passed off during the day.

The last of this group was a woman of 43, who had suffered for the previous 15 years from lupus erythematosus.

I performed tonsillectomy at the suggestion of Dr. E. P. Zeisler; no change in her malady is noted after 22 months.

POST OPERATIVE COMPLICATION AND SEQUELAE

Twenty-nine children were operated on in my office, all under ether. The last of these was a girl of seven. I had removed the tonsils, and had introduced the adenotome into the nasopharynx, when she stopped breathing.

I removed the adenoid, pulled out the tongue and elevated the angles of the jaw, but instead of the expected deep gasp, the patient became intensely cyanosed, lips were black and the pupils completely dilated. I grasped the patient by the ankles and held her head down, and when I attempted to dilate the rectum, it readily admitted two fingers, there was complete loss of sphincteric tonus, and an involuntary evacuation had occurred. Vigorous artificial respiration was instituted, and finally a feeble inspiration occurred, with re-establishment of cardiac action which also had been suspended. The patient made an uneventful recovery. I have performed no tonsillectomies in my office since this occurrence.

In this series of 200 cases there were five post-operative hemorrhages. Three of these were controlled by administration of emetine or horse serum. It was necessary in two adults to anesthetize and ligate the bleeding points. I have since sutured the pillars in all adults.

One patient 29 years of age, began to run a septic temperature on the sixth post-operative day, accompanied by sweats and productive cough. Roentgenograms of his chest as well as leucocyte counts and physical findings were negative. He cleared up in a week. I suspected a

lung abscess, but was unable to prove its presence.

Post operative pain in the ear was present in about one-half the cases, but there were no cases of post operative otitis.

In two adults, one of whom had undergone operation twice before, there was some damage done to the pillars and soft palate, in freeing the upper pole of the tonsil, which occupied the entire supra-tonsillar fossa, and was imbedded in the soft palate.

Both regurgitated liquids through the nose for about three months, fully recovering.

The uvula was intentionally amputated for elongation in two cases, and accidentally in one. Incomplete removal was noted five times in the series; a portion of one lower pole in three instances, a part of one upper pole, and a stump left in the floor of the tonsillar fossa in each of two cases. Three of these were subsequently removed by me under local anesthesia.

Operative Remarks. In children with large projecting tonsils, rapid complete removal, with little hemorrhage is effected with the Beck tonsillectome. In adults I routinely use a blunt nosed scissors with double cutting edges, to free the tonsil from the pillars, and remove with a Tydings' snare. After the anterior pillar is freed from the tonsillar capsule and the tonsil drawn to the midline a few strokes of the index finger, covered with a bit of gauze, will cleanly separate the latter from its bed—but not always. In some cases I have noticed a projection of fibrous tissue continuous with the inferior pole and projecting down to the base of the tongue. These patients have had previous severe attacks of tonsillitis and quinsy, and this tough adherent lower pole is difficult to remove thoroughly. I grasp this area with a hook, and dissect it free, down to its termination at the root of the tongue with scissors. A branch of the lingual artery is usually cut here.

After enucleation, I make sure by touch and sight that none is left behind, especially at the lower pole and posterior pillar, then in all adults I approximate the anterior and posterior pillars by a mattress suture of catgut, which includes the floor of the fossa, to prevent hemorrhage. I fail to see why we should trust to the contraction of the superior constrictor fibres of the pharynx to check hemorrhage from two or more arterial branches which have been severed here,

any more than we would trust to natural agencies to effect hemostasis in any other location in which we are operating, and sever an artery. In children, when using the Beck Snare, if a full minute of gradual pressure is used in enucleating after the digital tightening of the wire to engage the tonsil, there is only oozing and no spurters, with a dry throat before leaving the operating room. A coagulation test should always precede tonsillectomy.

If care is exercised by the anesthetist in immediately aspirating by suction the caseous plugs which pop out into the field, as well as mucus and particles of adenoid tissue which are loosened with the currette, the likelihood of lung abscess or aspiration pneumonia is greatly reduced.

After removal of all adenoid tissue possible with the adenotome and currette, I think it is always possible to wipe out small adenoid masses from the fossae of Rosenmüller and about the Eustachian orifices, with the gauze covered index finger.

One more point—if it can be sufficiently impressed on the adult patient's mind that he must eat dinner that first post-operative night and continue to eat, and that it hurts less to swallow semi-solids than liquids, he will not have such a painful throat and a smoother convalescence.

Results. The results are accounted good when the presenting symptom for which operation was performed has disappeared. When the same symptom is complained of after operation I class that as a poor result or unchanged. It is obviously difficult to accurately evaluate results, because the symptoms in many cases overlap; in some instances, as in endocarditis, the best result hoped for, is to check a diseased process, after damage has already occurred.

Many patients included under recurring sore throats, might be placed in the mouth breather group, in the cervical adenitis group or otitis group. I have endeavored to classify the indications for operation and correlate the results on the basis of the presenting symptoms, or the most outstanding complaint which brings the patient to me.

The results, in my experience in this limited series, were best in those whose tonsils and adenoids were the cause of, or predisposed to recurring infections in the throat or ears and

in those suffering from obstructive symptoms, where the symptoms were at the site of the infection rather than removed from it. Thus in 84 patients, 45 adults and 39 children operated on for recurring sore throats, 76 were attended with good results. This does not mean that none of those has had a sore throat since operation, but that the number and severity of the attacks has been so greatly reduced, as to be classed as normal for this area.

Of 34 operated on for obstructive symptoms, 29 were relieved and five were not benefited sufficiently to class as good results.

Of the 20 cases operated on for recurring ear infections, 18 were attended by good results, and only two showed no improvement.

Ten patients were operated on for recurring attacks of bronchitis and head colds. Five of these were very definitely benefited, while of the remaining five, whom I class as poor results, there has been some improvement.

Cervical adenitis was an indication in one adult and eight children, five of whom gave good results.

The adult case proved to be tubercular and was not cured by tonsillectomy.

Three children have not been entirely cured after periods of 20, 22 and 18 months, respectively. I think the poor results in these cases are accounted for by the fact that infection persists in the cervical glands and becomes exalted by the same causes which light up latent infections elsewhere; in short, only part of the infective focus was removed in the tonsils.

Possibly this may account for unsatisfactory results in other instances, as joints, heart valves or other tissues, where a secondary focus has become established metastatically from the primary process in the tonsil.

Of nine adults on which tonsillectomy was performed, six were cured of arthritis.

Five cases had suffered from at least one attack of acute rheumatic fever. Three cases did not show sufficient improvement to be classed as good results. One of these a young man 28, had, besides large infected tonsils, a vesiculitis and prostatitis of two years standing, with arthritis of both ankles, right wrist, back and knees. The other two cases in this group classed as unchanged were both of the chronic polyarthritic type.

Of the six adults suffering from myocarditis,

improvement which was marked enough to be classed as good occurred in four cases. There had been with each attack of tonsillitis in these cases, an exacerbation of the cardiac symptoms which disappeared after operation.

The two cases classed as not benefited by tonsillectomy, had also endocardial involvement, one with hypertension and nephritis.

Five adults suffering from neuritis were operated on for diseased tonsils. Three of these obtained excellent results; there were coexisting pathological changes present in two of these, to the eradication of which improvement must be at least partially ascribed. An empyema of the maxillary sinus and four alveolar abscesses were drained, preceding tonsillectomy in one, while in the second, pyorrhea with apical abscesses, was cleared up before tonsillectomy, by teeth extraction.

Two, or 40 per cent. of the cases, have received little benefit thus far from operation.

Two of three little girls with well defined chorea were free from symptoms at eight and 13 months following tonsillectomy; one child was taken out of school for one term, and both were placed on medicinal and hygienic treatment.

The third case, in which the chorea is associated with endocarditis, had had relapses, and while not classed as a good result, shows a justifiable improvement.

Some of the most gratifying results in this series, were in children suffering from malnutrition, which was usually associated with nervousness and obstructive symptoms. Of nine children from the ages of five to 11, all were benefited, and eight began to pick up weight and showed general improvement very soon after removal of tonsils and adenoids. A dietetic and hygienic regime was also instituted; phosphorized cod liver oil was also given.

One patient 29 years old in the group operated on for endocarditis, had been employed in a brick yard pushing heavy cars of brick. Aside from repeated attacks of tonsillitis he had never been sick.

He complained of dyspnea which was always worse after a sore throat, becoming so marked as to finally incapacitate him.

The cardiac apex was beyond the nipple line, with loud double mitral murmurs, accompanied by a low grade temperature.

After removal of the tonsils, which were large

with numerous concealed foci of suppuration, a marked improvement was noted in the heart and general condition, with a gradual decrease to normal of cardiac dullness; he was able to resume his work in six months, and has continued at it for two years. All four patients in this group were benefited, and two decidedly so.

Of the last group of seven cases which I classed under miscellaneous indications, four were greatly improved, and three were not benefited.

Two adults complaining of tiring easily, poor appetite and general run down condition, were definitely benefited by operation.

One man complained of painful back, which seemed to bear a definite relation to attacks of sore throat. This case I interpreted as a myositis of infective origin; it cleared up soon after removal of submerged infected tonsils.

One child with recurrent headaches which by exclusion I attributed to obstruction of the upper air passages by tonsils and adenoids, was cured by their removal.

The case of lupus erythematosus in which operation was recommended by a dermatologist has shown no change; the courses of the two iritis cases in children were not altered by operation.

SUMMARY

1. Survey covers 200 tonsillectomies performed by the writer on 78 adults and 122 children.

2. Results based on from one to six years' observation.

3. No deaths directly or indirectly following operation.

4. General anesthesia employed in all cases.

5. Importance of ruling out associated diseases emphasized, before condemning the tonsils; failure in this, incomplete removal or removal for fanciful or trivial reasons common causes for poor results following tonsillectomy.

6. Symptoms arising directly at site of infection viz.: the tonsils and adenoids or in adjacent areas as the ear, are attended with the best results.

7. Too much dependence is placed on natural agencies in controlling hemorrhage in tonsil operations in adults.

8. Malnutrition cases gave uniformly good results following operation.

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GETTING A MEDICAL EDUCATION IN THE GASOLINE AGE*

FIRO S. IGMA

The moral of this recital is that even the best concrete road has some bumps in it. Furthermore, if you take these bumps philosophically you discover that you have a better appetite at the close of the day.

It was the late Mr. Emerson, I believe, who said in his famous essay on Compensation that every cloud has a silver lining, and that it is the stone that remains placidly quiescent which accumulates a growth of green whiskers, and I had been quiescent for four long years. The why of all this is thus, although some writers who are particular about their style might say, "the why of all this is this"; take your choice.

After a period of twenty-three years of exceedingly active practice of medicine along came some of those concrete bumps. The war was the first one, for it bumped me out of practice, out of civil life and into the army in a capacity other than a medical capacity. As a matter of fact, for a period of twenty-seven months the war furnished all the corrugations, convolutions, inequalities, irregularities and corduroyitis in general of that life road. The result was that at the close of the day I had a definite and compelling appetite—for rest. In fact, some of my medical friends emphasized the robust size and the lusty hunger of that appetite by saying that nothing short of a long, a very long meal, taken slowly and continuously for a considerable period, would prevent a permanent rest on my part.

Never, up to that time, had I been entirely submerged in confidence in the medical profession. I had always felt that there was a possibility at least, of an error in the judgment of some of them; that most of the doctors meant well and were honest in their beliefs, but that

*Editor's Note:

This article is allowed to appear under a *nom de plume*. The author is one of our greatest medical men, both from a professional and a civilian standpoint. The editor feels that if the name appeared instead of the *nom de plume* it would be easy for any one to identify the school under discussion, while if it is not apparent, any medical school may wear the shoe if it fits. Still more, and it seems to the author that this should have great weight, if the name of the writer appeared and the school is identified it might cause annoyance to some professors, and this the author does not wish to do. There is no intention on the part of the author to cause any unfavorable criticism of any school, or any teacher, or any class of students; the somewhat jocose style was assumed merely to attract attention, and to cause—perhaps—a further study of the methods now in use in our medical schools, to make sure that the present method of instruction is the best one. To the author's mind it is not.

when it came to the matter of infallibility it was likely that each one had a vulnerable point, and my feeling was that a good many of them were composed mostly of points, too. But some change had come over me; maybe the opinion of the first one or two was doubted a bit, but when all the members of the jury said "guilty" when they were polled, it convinced me that they knew what they were talking about. So I started to rest and four whole years went by before I could yawn, stretch myself, stick a bare foot tentatively out from under the bedclothes, get under the shower and then roar, "Are those waffles ready yet?" All of this brings us down to Annie Dominick, 1923.

During four years' time with a fellow reminded off and on that he had better consider the maturing of his straight life insurance policies, and while he is figuring out how much he is going to be out of pocket because he took a lot of twenty-payment-life stuff instead of putting all of his insurance on for his earthly duration, a fellow forgets an awful lot about Freidrich's ataxia and how to ligate the fourth dorsal vertebra. In fact, he even forgets how to talk the medical language—which is a language just as much, and just as incomprehensible as Chinese is. And that's the fix I was in when I began to holler over the bannister about those waffles.

Of course, there is only one place to learn Chinese—I mean medical Chinese, and that's at a medical university. Now, for twenty-nine years I had had the utmost respect for a certain university, for this particular one had turned me loose twenty-nine years before, and both my wife and I had agreed for many months that while my native ability and my natural bent toward medicine and surgery would have brought me distinction even though handicapped by a degree from some lesser school, still we felt that this particular university had probably put a little heavier and richer gold-plated finish on me than any other university could have done, so naturally, when I wanted that finish restored, and wanted all my medical precious metals cleaned and furnished anew we decided to let the old, reliable family jeweler do the job. So back to Alma Mater I went.

Twenty-nine years is quite a while. In fact, almost all of us can remember some grown people who were kids twenty-nine years ago, and

they look like men and women now; they talk, and walk, and some of them even show symptoms of thinking. And I knew that there were going to be changes at the university; yes, I knew that. I thought maybe there would be a new janitor, and that there might be enough microscopes so that each student could look through one two or three times a week; or it might be that with all the microscopes and other new things it had come about that someone had discovered another microbe, or a new way of decorating, or assassinating an old one. You see, I had read the daily papers regularly, and I realized that the age of the horse was gone and that King Gasoline now reigned in his stall.

Were there any changes other than those expected? I'll say there were. If you ever went to a circus expecting to see an elephant and two hyenas, and when you got there found thirteen catawampuses and a flock of sky-blue diggerjins, and a whole lot of other willywaps whose names you didn't even know, you can picture about what my feelings were. In the old days there were three, or possibly four men who lectured on surgery, and who did all the clinical surgery that was done—and when one eliminates that sentence from his system it means that there was a lot done—and all the students went to all those clinics. The only difference was that the seniors had the front seats and the "D. Js." had to look on from a greater distance. And clinics! Why, doctors came from more than half way round the world to observe them, and the surgical giants of those days were worth observing, too. Their names were almost household terms, and when one of them started operating at one p. m. and operated on case after case, case after case until six or even seven p. m., operated and lectured, and taught and quizzed all at the same time, one felt that he had gotten his money's worth. Twenty-nine years ago these men could not be called pioneers, although they did explore many an untouched and unexplored field, but they were at least the builders of our transcontinental medical transportation lines; they were the tillers of the virgin fields; they were the men who uncovered the wealth of nature's resources after the pioneers had passed by.

And their word was law, the law of the Medes and Persians. If they said that "Here we find

certain indications and conditions therefore the treatment must be so and so, and the results will be so and so," anyone could understand that, and every student accepted that. The student wasn't loaded up with a long list of possibilities, of exceptions to the rule, of contingencies which might or might not exist or develop. Of course, any student could read any author on any subject he might desire, but if that author happened to disagree with one of our professors, and if the student at the time of examination wandered off and followed the strange god, woe be to that student. The result was that when that student was graduated he had an opinion four square to the winds of heaven on practically every feature of the practice of medicine. Naturally, when he got out in practice he found that there were exceptions to the rule, and then he always came to one of two conclusions—neither one of which did him any harm. One was that he was an exceedingly wise bird because he had discovered something new. The other was that old Professor Blank wasn't such a whale of an authority after all. More than this, that discovery of an exception to the rule spurred him on to study and to investigate hoping to find other exceptions; even a doctor likes to be a discoverer or an inventor.

Under the university system of the Gasoline Age things have changed. All that wealth and mass of clinical material, all those numerous operations once done by three or four men, is now scattered among about thirty men. These men may be just as good, and just as competent as the previous three or four were, but no longer do all the students see all those cases, nor do they see the technique, nor the *modus operandi* of diagnosing all those cases, nor do they watch the necessary operations or treatment for all those hundreds of ailing people, for the students, like the patients, are broken up into little groups and each little group of students sees only the small number of cases which can be assigned to the particular instructor of the small group. The result is that today at that particular university—which is one of the largest in the world—a surgical clinic consists almost entirely of talk; or lecturing on some subject or a fragment of some subject; or of hearing one or another student give a resumé of some medical article which some medical soul thirsty for rushing into print has had published

in one or another of our myriad medical journals. As a general rule a doctor is looked upon as being the exact antithesis of a humorist, but a few years ago some doctor went into labor and finally gave birth to a descriptive term to be used to identify, specify, isolate, describe and set apart a clinic which was verbal only, from one which was combined of both the verbal and operative elements, and his resultant parturient effort was a "dry clinic"; that fellow was a humorist. Only a few days ago in one of the surgical clinics of one of the few remaining giants of thirty years ago, a man who is still a surgical giant too, a man who used to think a clinic was a weasened thing if he did not have ten or fifteen cases to diagnose and operate on. the other day his clinic consisted of one measly paracentesis abdominalis. It was so simple and easy that he had a clinic assistant do the work, and one of the students might just as well have done it. But they made more fuss, and spilled more descriptive language over that job than they did thirty years ago over a thigh amputation with a gastro-enterostomy thrown in for good measure. That clinic was supposed to last for two hours, and all of that time the head of the clinic was watching the clock on the wall of the amphitheatre, and one could fairly hear him groan "How long, oh, Lord, how long?" But don't get the idea that he stopped talking; there were those two hours to be consumed so he thought of some new exceptions, and some more possibilities, and a few idiosyncrasies and bravely finished his task.

Under the university system of the Gasoline Age the graduated student has his bag crammed full of tricks; he has all the exceptions and possibilities with him; his mind is like the pants pocket of the small boy—so full of things he can't find the bit of string he wants. And not only this, for while he is keeping his eye on these exceptions which he is taking out of the bag when he is looking for the rule, he becomes so fascinated and perplexed and hypnotized by these exceptions that he forgets what he was looking for, or he passes it by unnoticed. There is no doubt that a little learning is a dangerous thing, but it isn't half so dangerous to feed a child plainly, wholesomely and rather lightly so that he can fully assimilate his food, as it is to lead him to the Waldorf-Astoria and give him *carte blanche*. More and more the old-timer

is impressed with the feeling that the university method of giving instruction today is like unto the man about to walk a tight rope across Niagara. Of course, it has been done; the old-timer now in the educational field did it, and his medical forebears did it, but when they got on that rope they carried as ballast and for balance, only those things which experience had proven necessary and desirable. Today, as the young doctor starts to climb up on that rope he carries all the original ballast just as his forefathers did, but in addition he has a tin bucket dangling from one shoulder, and a wash tub is hanging about his neck; then someone hands him two gallons of molasses to balance on his head, and someone else claps a pair of spectacles on him with one red lens and one blue one; then another well-wisher, as a bit of parting advice, tells him to progress forward backward, and to assume a horizontal position vertically, and then he is ready to start out. It's a perfectly safe bet that if he is lucky enough to reach the other shore, and if he has as much human nature in him as the average American doughboy on a long hike, then it's a perfectly safe bet that he is going to put in most of his spare time for the next two or three years throwing away a lot of those exceptions, and those opinions of Tom, Dick and Harry, M.D., and of so stripping his mental baggage that he hasn't anything generally designated as "excess" left. I sometimes think that when it comes to preparing a young man for a life work our universities would do better if they would place a few of our best architects on the committee which has to prepare the curriculum, and which should prune and trim the teachers, for our best architects have grown away from the Queen Anne and the Jigsaw.

But that isn't all; just remember "O Tempora, O Mauruss," which means that both the professors and the students have changed. Thirty years ago the professor, who had been in the harness for perhaps thirty years, was a human being. It may be that Sherlock Holmes might have spotted him on the street for a doctor—most likely by his whiskers—but aside from the whiskers he was as human as you or I. Today he is whiskerless, and today he doesn't need to wear the harness for thirty years to get his identifying galled spots; eight or ten years is enough today, and the photograph on his passport isn't whiskers; it's his eye, his small, con-

tracted, cold, hard, blasè, emotionless fish eye. I'm talking now about the successful doctor who teaches in the big university, and who has a large reputation. You see I carefully draw the line in order to leave my own optical beam on the outside; it's the other fellow's mote we're looking at. I don't mean that doctor's face never smiles; it does, but his eye doesn't. I don't mean he never does a kind deed, but his eye doesn't. It may be that he even plays, but his eye doesn't. I'm not going to say why this is so; I'm not drawing conclusions, my inferiority complex forbids it, but I'm willing to admit that it's my opinion that his mental circulatory system is clogged with "exceptions," and that every so often he has to turn his eyes backward in order to get his traffic to circulating again, and to see that some of those exceptions haven't been stuck in the mud or lost in the shuffle. This opinion may not be entirely scientific.

But watch that doctor in church, in the theatre, in the clinic, in the hospital and see if he doesn't wear that kind of an eye all the time. As to his fireside optic I cannot say; it may be he takes those glass eyes out and lays them on the dresser along with his teeth when he gets home, but all the rest of the time he presents them to the world.

So much for O Tempora; and now O Mauruss, for Mauruss is here. In this one university under consideration, twenty-nine years ago the students came proportionately from country, small town and city: today they come largely from the city only. Whereas, in ye olden days, almost every student was American born of American born parents, and perhaps of grandparents who were born in Delaware and South Carolina and Indiana and California, at this university today, in the senior class of the college of medicine three out of every ten are Jews. I'm not stating that because I'm a Jew hater, or a Jew baiter, but just because it's a fact. I like Jews; they attend to their own business whatever it may be, and they generally arrive. Two out of every sixteen of that class are one generation or less, removed from Southern Europe and three out of every twenty of that senior class are Japanese, Chinese, Philippino or Negro.

And Mauruss and his co-workers don't act as we did thirty years ago. We had our note

books then, of course, but notes were few and far between because the personality of the teacher was so forceful, so vigorous, so stimulating that we hesitated to take our eyes from him long enough to take notes of what he was saying. His inflections, his gestures, his animation, his intonations impressed the important things on the memory, and practically every thing he said was important: he wasn't using a lot of words just to see how they would sound: I mean, just to hear how they would look. Today a class room is a group of reporters writing as swiftly as possible, never glancing up for fear of losing the pace: a race of fountain pens through a forest of paper. There is no attempt to sift the needful or the important from the unimportant: there isn't time for that, and besides they may be asked about one of those "exceptions" in examination: a hundred galloping fountain pens trying to keep up with the exceptions, the possibilities, the contingencies, and the hundreds of opinions which have arisen in the minds of hundreds of observers. Sound reactionary and grouchy, doesn't it? But it isn't. Someway it's hard to get away from that classic definition, given years ago for an ideal university—President Mark Hopkins on one end of a log and a student on the other end. I didn't know President Mark: I don't even remember who it was who fashioned this definition, but President Mark wasn't warming that log for the sake of filling that student full of possibilities and doubtful contingencies: he was feeding that student essentials and doing it with all the frills cut off. He knew too, that the impress of his own personality on that student's mind was the force needed to fasten those essentials in the student's memory. Mark didn't have a text-book in his hand from which he read to that student—as I saw a university teacher doing to his class the other day. If there was something in a book which Mark wanted that student to know he would have sidled over on the log, clapped his hand down on that student's knee and said, "Now John, you get such and such a book, and when you get home after I'm all done telling you about this, you read what that other old geeser has to say about it, and then you form your own opinion." Just as one of our old time professors used to say frequently, "Dis is absolutely so and so: I can brove it: I can dem-

onstrade it, but don't you effer take my vord for it: brove it for yourselfs."

But not all of the teachers in this university belong to the genius which reads from a text-book; some of them still cling to the ways of thirty years ago. In conversation with one who was a graduate shortly after my own year, and one who has become a famous man both as a practitioner and as a teacher, he put this question to me, "What differences do you notice most; what changes impress you the greatest?" The answer was, "The dispersion and dissipation of the resources and the forces at your command, and the awful load of trivialities you hang on the mind and energy of the student." It should be said right here that this man is the head of a department, and is the secretary of the medical faculty, and that his department is the one department which has not been reduced to a fragmentary condition, and parcelled out among a number of clinicians.

Quick as a flash he retorted, "You don't see that in my department do you?" and then he went on, "I know what is in your mind, and I have taught, and am teaching on the same lines, and by the same methods we found so useful in your day and mine, and I am proud to say that students from this department take high rank, and are even considered expert as soon as they get out in the world." I could readily believe him. for after sitting in his clinics and classes day after day, I found that his students were fed only the essentials; that they saw and studied disease in the living body; that they met many and various diseases as presented by hundreds of patients in his clinics.

All of which leads me to exclaim, O Tempora!
O Mauruss! O Gasoline!

THE MERCUROCHROME OINTMENT TREATMENT OF VULVOVAGINITIS*

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The treatment of vulvovaginitis as practiced today is extremely variable and renders unsatisfactory and conflicting results. It is believed that the course of the condition extends over many months, and that therapy shortens it but

*From the Vulvovaginitis Clinic of the Michael Reese Hospital Dispensary.

little. The medicaments and methods proposed for the treatment of this condition are innumerable, and up to the present time, we have had no uniformly reliable mode of treatment. Irrigations, instillations, local applications, vaccines, both specific and non-specific, and topical application through the illuminated speculum have all complete alleviation of the symptoms and disbeen used and the results obtained thereby have been favorable in the hands of some observers and unfavorable in others.

A brief review of the literature pertaining to the treatment of vulvovaginitis will reveal its present chaotic condition, and will serve to emphasize the need for a simple and effective method.

Blumenthal¹, in a paper read before the New York Academy of Medicine in 1863, recommended that in very acute cases where congestion is marked and depletion necessary, leeches be applied either to the labia or to the adjoining surfaces of the thighs, assisted by hot fomentations or poultices. This treatment was then followed by the use of a solution of silver nitrate. 10-20 grains to the ounce applied locally and was supplemented with the administration of tonics. His results at the time were encouraging.

Bandler², Taussig³ and Perrin⁴ reported good results with the use of silver salts, especially argyrol applied locally, while Wolff⁵ opposed the use of local treatment in those patients past infancy because he claimed that such a procedure had a demoralizing influence upon the patient. He advised the use of vaccines. Rygier⁶ enlarged upon the difficulties of using local measures and upon the lack of permanent results thus obtained.

Adkins⁷ believed that the disease ran its course in spite of all one could do to cure it. Certain local measures he found to be of temporary benefit, such as the instillation of cultures of lactic acid bacilli. Whitehouse⁸ cleared up eight cases thus treated with lactic acid bacilli, but did not know whether the results were permanent.

Mechanical cleansing by douching or irrigation alone or in conjunction with local applications have been reported to have given good results by G. G. Smith⁹ and Fisher¹⁰.

Wachs and Mazer¹¹ after failure with a silver

paste, recommended the use of 1 per cent Dakin's oil instilled daily with a medicine dropper, the child lying in Trendelenberg position—58 chronic cases so treated showed marked improvement in one month. Norris and Mikelberg¹² reported a series of 74 cases similarly treated with cures in an average of twelve weeks.

Rubin and Leopold¹³ and Barnett¹⁴ reported appearance of the discharge in one month by the topical application of silver salts (with swabs) through the electrically lighted urethroscope.

B. W. Hamilton¹⁵, Butler¹⁶, Rygier⁶ and Wolff⁵ reported cures in from 75 to 90 per cent of their cases treated solely with autogenous vaccines. Similarly Sage¹⁸ obtained good results in 9 cases.

Barnett¹⁴ found no improvement in the vaginal discharge of patients treated with vaccines, but when there was a complicating arthritis, the latter yielded rapidly to this treatment. Spaulding¹⁹ believed that vaccines were not a specific cure, but that they were an additional valuable agent. Murphy and Kreuscher²⁰ considered the toxicity of gonococcal vaccines to be an almost insurmountable obstacle to their use.

Marfan and Debre²¹ used antimeningococcus serum subcutaneously for vulvovaginitis. Grave and unusual anaphylactic symptoms resulted so that this form of treatment was abandoned. Wollstein²² used autogenous and stock vaccines according to patient's opsonic index, but the results were not encouraging. Graves²⁴ believed the results from vaccines were so beneficial they should be adopted as a specific part of the treatment. Abt²³, however, believes that they are valueless.

Tieche²⁵ warns of the danger of "sexual trauma" from the use of local treatment, but concludes that the combination of vaccines and local measures offer the best hope for cure.

Boas and Wolff²⁶ treated a series of cases which they divided into three groups. One group received vaccines only, another group received vaccines and local treatments, and the third received local treatment only. They obtained the best results from the series treated with combination of vaccines and local instillation of silver nitrate solution. Vaccine treatment alone gave no improvement.

Thermal baths were utilized in the treatment of vulvovaginitis following the favorable report

of Weiss as to the effect of raising the body temperature in gonorrheal patients. Engwer, Ylppo and Bendix each reported a cure. Risseoloda, Schultz, Nast and Scholtz had less favorable results. Schultz obtained severe reactions in children and warned against the use of thermal baths for the young.

Gellhorn in 1920, described the method of treating vulvovaginitis by means of daily injections into the vagina of 1 per cent silver nitrate in an ointment of equal parts of lanolin and vaseline, the advantage of the ointment over the watery solution being that the bactericidal agent remains in contact with the diseased mucosa continuously and has the ability of penetrating into the crevices of the vagina. Because of the simplicity of the method and its rational appeal in this condition we decided to utilize it. We substituted 1 per cent mercurochrome, however, for the silver nitrate because it is less irritating, less astringent, and equally efficient as a germicide.

The ointment is injected into the vagina by means of an ordinary glass irrigating syringe having a slender nozzle, to which a piece of sterile soft rubber tubing three inches long and $\frac{1}{4}$ inch diameter is attached. This tubing is introduced into the vagina and slowly pushed inward along the entire length of the vagina. The vagina is then slowly filled to capacity with the mercurochrome ointment, the excess of ointment being allowed to ooze back through the hymenal opening, covering and protecting the irritated vulva. The tubing is changed for each patient and is sterilized by boiling. These treatments are given daily and no irrigations or other treatments allowed but a daily tub bath is insisted upon. The mothers are urged to change the children's underclothing frequently. The method is so simple that a large number of children can be treated in a short time and it is painless so the children co-operate readily.

Smears and cultures were taken at the beginning of treatment and repeated every two weeks after a day of rest from treatment. When negative reports were obtained this procedure was repeated at weekly intervals until three successive negative smears and cultures were obtained. Treatment was then suspended, smears and cultures were then taken two weeks later and if negative repeated finally in three or four weeks to determine cure. Further observation was continued for a period equal to the time

of the active treatment before the patient was discharged as cured. Furthermore, these cases have been followed up for the next year to determine the permanency of the cure and to detect recurrence.

Our patients were classified into three groups, the gonorrheal, suspicious gonorrheal and non-gonorrheal. The diagnosis was established by the culture and smear. If the smear revealed pus cells with gram negative intracellular diplococci of typical morphology, the condition was considered gonorrheal. If gram negative extracellular diplococci were present it was considered suspicious.

As we reported in a previous communication, (Stein³⁰) our cultural results gave us no additional aid to the smear diagnosis and in some instances failed to corroborate the smear. We, therefore, have ceased making cultures in these cases as an unnecessary procedure and rely upon smears entirely for diagnosis and criteria of cure.

In our first publication in this study, we reported the results obtained in sixty-six patients treated by the method described. To that number we wish to add seven more cases and summarize the results in the seventy-three cases.

Gonorrheal—there were eighteen patients discharged as cured in an average of 9.7 weeks.

Suspicious Gonorrheal—fifteen patients were discharged as cured in an average of 6.5 weeks.

Non-gonorrheal, most of whom were infected by organisms from the intestinal tract, there were forty patients cured in an average of five weeks.

Seventeen other patients treated irregularly could not be included here because of lack of clinical and bacteriological evidence. These cases were incomplete.

We were able to examine twenty of the above mentioned seventy-three patients one year after their discharge and found them all free from local symptoms and negative bacteriologically. This is the most gratifying phase of the investigation, for many varieties of local treatment have been reported satisfactory for clearing up the discharge, but recurrences have been very common. Recurrences occur particularly after acute contagions. If a method is used which clears up the clinical evidence of the disease in a few weeks, and there is no recurrence in a year, it may safely be recommended as a reliable therapeutic procedure resulting in cure.

Prophylaxis

Vulvovaginitis is a repulsive and distressing condition; everything possible should be done to guard female children from contracting it. The value and necessity of insistence upon a strict prophylaxis in every case of vulvovaginitis whether institutional or not, can be gathered from the study published by Gittings and Mitchell²⁹. They give the following sources of infection:

Infection in some other member of family.....	102
Hospital wards	107
Hospital dispensaries	1
Playmates	31
Sleeping arrangements	14
Toilet and bathing facilities	10
Public schools	8
Temporary institutions	13
Permanent institutions	1
Day nurseries	5
Bad habits and bad character (probably in older children)	15
Rape	8
Doubtful	93

To guard against these sources of infection, children should always sleep alone; the child's genitals should be frequently inspected by the mother and scrupulous cleanliness by frequent bathing, sponging with warm solutions and powdering should be maintained. The toilet seats in schools should receive special attention. The child should be instructed how to protect herself against the seat contamination. She should be taught how to properly cleanse herself. Whether infected children should be kept out of schools, public toilets, baths, etc., is a virile question. As pointed out³¹ previously, the gonorrheal patients must be kept apart, but those with the non-specific infection may attend school, insofar as they are usually self contaminated.

Hospitals and other institutions which house little girls permanently or even temporarily should have a well developed aseptic technic in the handling of children. Abt²³ urges the isolation of all cases of infection, and the temporary isolation of all admissions to children's institutions until three negative smears are obtained. Nurses handling these cases should wear gloves. The children should have individual beds, thermometers, soap, towels and bed pans.

Active Treatment

On the basis of our study of this group of cases and because of the unsatisfactory state of the treatment as described in the literature, we

recommend the following procedure in vulvovaginitis, both specific and non-specific:

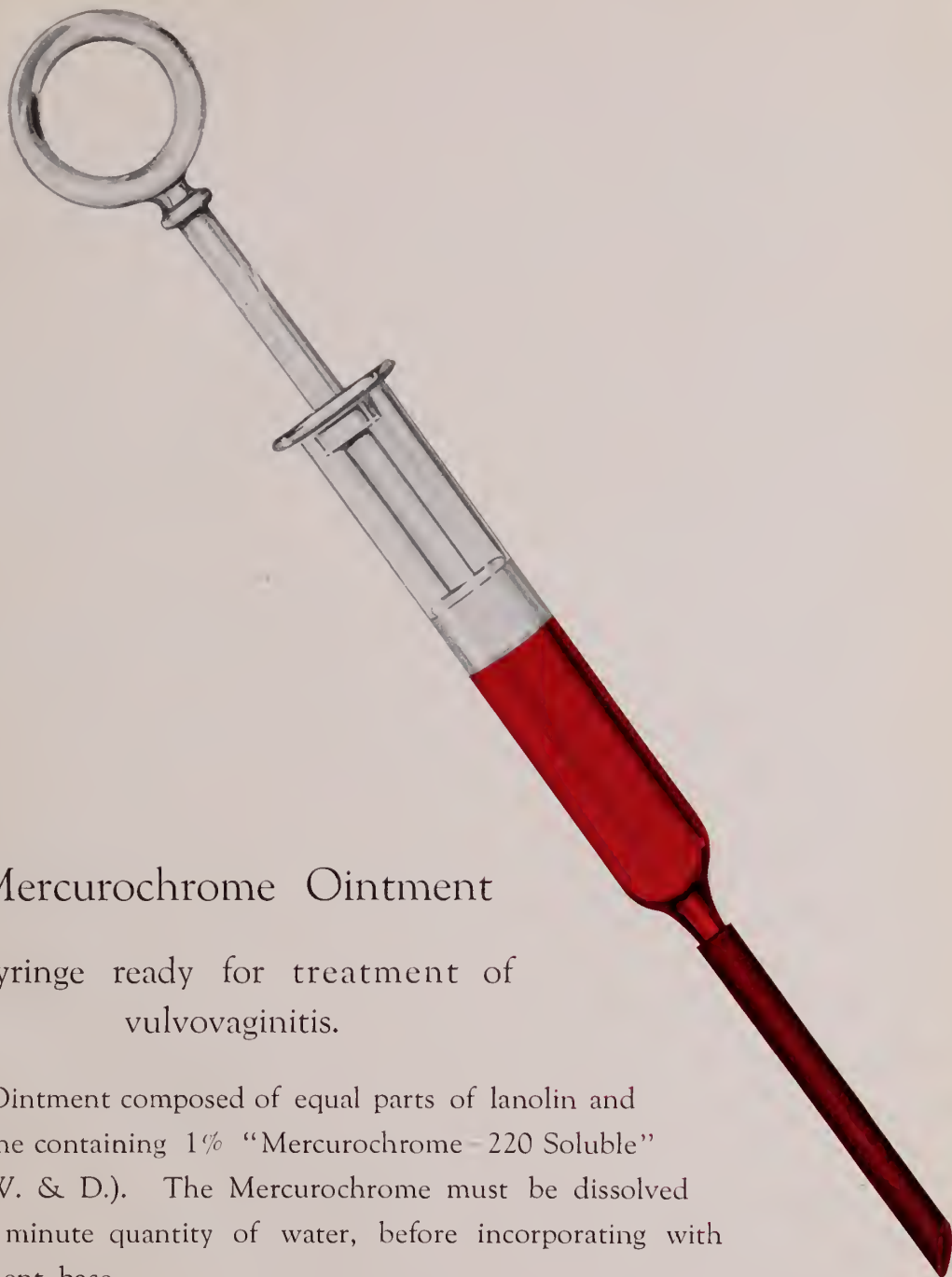
1. Daily injections of 1 per cent Mercurochrome ointment by the method herein described.
2. Daily hygiene consisting of a tub bath and change of undergarments.
3. Isolation of gonorrheal patients insofar as is possible.
4. Avoidance of irrigations and instillations of strong medicaments into the vagina.
5. Careful bacteriological diagnosis based upon expert smear examination.
6. Determination of cure by repeated smears over a period of time equal in length to the time of treatment.
7. Follow up for permanence of cure and evidence of recurrence.

CONCLUSIONS

1. Vulvovaginitis can be cured by daily injections of 1 per cent Mercurochrome ointment into vagina.
2. Gonorrheal vulvovaginitis was cured by this method in an average of 9.7 weeks in our hands.
3. Non-gonorrheal vulvovaginitis cured in five weeks by this method.
4. In twenty cases, which we were able to follow, there were no recurrences in the year following the treatment.
5. We urge the adoption of this method of treatment of vulvovaginitis, because of ease of administration, freedom from pain and irritation and because of the rapidity and permanence of the cure.

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Mercurochrome Ointment

in syringe ready for treatment of
vulvovaginitis.

Ointment composed of equal parts of lanolin and vaseline containing 1% "Mercurochrome-220 Soluble" (H. W. & D.). The Mercurochrome must be dissolved in a minute quantity of water, before incorporating with ointment base.

The ointment should be warmed in a water-bath to facilitate drawing it into syringe.



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Society Proceedings

ADAMS COUNTY

The January Meeting

The January meeting held at the Quincy Country Club on January 16, was the annual social evening of the Adams County Medical Society and was a Stag affair. The meeting was preceded by a banquet in honor of Dr. Wm. Engelbach of St. Louis and the president, Dr. W. F. Pearce, was in the chair. The Red Jacket Orchestra of Quincy furnished special music during the meal. Thirty four members were present. Dr. J. H. Jurgens of Quincy was a guest.

Following the banquet the regular business session was suspended until the February meeting except for one item of business. The Secretary explained the desirability of developing Quincy into a larger and better medical center and the advantages of publishing a Bulletin each month. He then made a motion that the secretary be authorized to publish a Bulletin each month and that the society appropriate \$100.00 from the treasury to pay the expense of same. This was carried without a dissenting vote.

Following this brief business session the members enjoyed a most excellent talk by Dr. Engelbach of St. Louis, on "Osseous Development (Roentgenologically) and The Result of Treatment of Ductless Gland Disorders," an abstract of which appears elsewhere in this Bulletin. This talk was illustrated by about 50 stereoptican slides and was enjoyed by all. Everyone was impressed with the original work Dr. Engelbach has done with the X-ray as a means of early diagnosis in many of the endocrine disorders. Following the address Dr. Engelbach answered many questions pertaining to endocrinology. Adjournment was made after a rising vote of thanks was extended to our guest for his excellent address. Cards were enjoyed by some of the members after the conclusion of the address.

February Meeting

This was a joint meeting of the Adams County Medical Society and the Adams-Hancock county Dental Society. It was the largest meeting in recent years, there being 49 members and guests present. Dr. W. F. Pearce, president, was in the chair. Minutes of December and January meeting read and approved. The report of the committees

on "Parking of Cars in the Downtown District," and "Newspaper Publicity Campaign" were received and continued. The Board of Censors reported favorably on the applications of Drs. J. H. Jurgens and A. K. Germann as members of the society and they were declared elected into membership. There was some discussion about the accepting of advertising in the Bulletin which terminated in a virtual vote of confidence in the secretary for the advertisements that had been accepted and the general character of the Bulletin. The bills for the month were presented and allowed. The scientific papers for the evening were, one on "Focal Infection from a Dental Viewpoint" by L. H. Wolfe, M. D. of Quincy, and another on "Focal Infection from a Medical Viewpoint," by O. F. Shulian, M. D. of Quincy. These papers proved highly interesting and were discussed by Drs. King, Williams, Jurgens, Montgomery, Tieman, Keeney, Swanberg, Buehner, and Beirne, of Quincy. The combined meeting was so successful and so thoroughly enjoyed that an invitation was extended to the dentists to have them meet with us again at the next meeting of the Society on March 10th, at which time Dr. E. H. Ochsner of Chicago will address us.

Adjournment was made about 11:10 P. M.

Harold Swanberg, M. D.
Secretary

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, January 30, 1924

Subacute Bacterial Endocarditis in the Bacterial and Bacteria-free Stages E. Libman, New York, N. Y.

Discussion—Walter W. Hamburger, Chas. L. Mix and Frederick Tice

Joint Meeting Chicago Medical Society and the Chicago Society of Industrial Medicine and Surgery, Feb. 6, 1924

1 Fracture Dislocation of Lower Tibia and Ankle. Method of Reduction After Application of Plaster Cast.

Discussion—C. W. Hopkins and S. C. Plummer.

2 Reduction of Disability From Lead Poisoning.

Discussion—George Apfelbach and James G. Carr.

Regular Meeting, February 13, 1924

The Present Surgical Treatment of Gastric and Duodenal Ulcer—A. A. Berg, New York, N. Y.

Discussion—Arthur Dean Bevan, Milton M. Portis, Bertram Sippy, Karl Meyer, Alfred A. Strauss

Regular Meeting, February 20, 1924

1 Some Newer Developments in the Non-Operative Treatment of Cancer. A Preliminary Report—Ed. H. Ochsner.

General Discussion—

2 The Value of Pyelography in Abdominal Diagnosis.

(Illustrated by Lantern Slides—Daniel N. Eisendrath.

Discussion—Harry Culver, Herman Kretschmer,
B. C. Corbus, Robt. Herbst, Vincent O'Connor

*Joint Meeting Chicago Medical Society and the
Illinois Hospital Association*

Feb. 27, 1924

- 1 Illinois Hospital Association; Its Aims, Accomplishments, and Relation to the Medical Fraternity—E. T. Olson.
- 2 The Duty of the Physician Toward the Hospital—J. Chase Stubbs
- 3 Advantages and Disadvantages of the Closed Hospital.—Chas. E. Hunniston, Ralph B. Seem, Supt., Future Hospital University of Chicago—J. V. Fowler, Emil Ries.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

Meeting of Feb. 5, 1923—(Continued)

DR. JOSEPH C. BECK, referred to the treatment in the hereditary tarda cases. In the past year he had observed four cases which were very interesting. One was a meningeal case late in life, in which there was a bilateral facial paralysis. He assumed that this condition extended through the internal auditory meatus. The patient was placed on arspenamin and responded very readily to the intravenous use of this drug. The condition cleared up and the patient left the city but three weeks later he received a letter from him stating that he was completely deaf and that the face was immobile again. Dr. Beck thought Dr. Mackenzie would recall the work of Dr. Benario showing that swelling of the nerves in the narrow canal occurred in the early part of the treatment, but if followed by more arspenamin this condition would clear up. This had been the experience of many of the men, among them Hata, who claims to be the man who discovered salvarsan, and Dr. Beck thought this an important thing to bring out. He had had several cases of hereditary tarda in which the symptoms, mentioned by Dr. Mackenzie, were present. He had tried the galvanic current and the man screamed with pain as soon as the current was turned on, claiming that he felt severe pain at the site of application of the current.

In a case of hereditary tarda with marked keratitis they placed the patient on a chair and surrounded her with a rubber cover and burned calomel, allowing the calomel fumes to cover the patient's body. It seemed that this form of mercurialization had a very desirable effect on these deaf patients. Dr. Beck had recently seen a boy of about twenty who was absolutely deaf, who gave no reaction to cold water or turning and who had a severe labyrinthitis. Three months later he had a negative Wasserman reaction. That man's ear improved markedly on some days, again, he would be practically stonedead. He had no reaction to turning and when the electric current was applied he complained of severe pain and did not tolerate the test.

DR. ROBERT E. SONNENSCHN said that the change in the bone conduction in early cases of syphilis had been noted, especially by Oscar Beck and others. It was characteristic that before the hearing changed to any degree the bone conduction was very markedly changed. Dr. Sonnenschein asked Dr. Mackenzie whether in the cases where the ear was markedly impaired the change in bone conduction threw any light on the differentiation between labyrinthitis and neuro-labyrinthitis.

DR. HARRY W. WOODRUFF, Joliet, Ill., said he had been rather struck with the infrequency with which one encountered involvement of the labyrinth with interstitial keratitis. Interstitial keratitis from hereditary syphilis was one of the more common eye diseases, in fact, phlyctenular keratitis

and interstitial keratitis form the most common diseases of the cornea in childhood. It had been mentioned that one seldom finds the Hutchinson triad in these cases and that there was lack of results from any form of treatment and Dr. Woodruff thought the ophthalmologists would agree with this statement. Some had gone so far as to advocate not treating these cases at all but he always treated them energetically with some form of mercury. It was true that during the treatment of these cases the second eye would nearly always become involved, notwithstanding the thoroughness of the treatment. The results in these cases were not so bad so far as the cornea was concerned. It was seldom that permanent and complete loss of vision occurred. Dr. Woodruff recalled a case which he had had under observation for many years with interstitial keratitis and also involvement of the labyrinth. The cornea cleared up very well and the patient had useful vision while the labyrinth never recovered, although it had not reached a stage that incapacitated her. Whether this was simply the result of time or of the mercury he could not say.

DR. THOMAS FAITH agreed with Dr. Woodruff regarding the appearance of keratitis in the second eye. He recalled that some years ago it was a common notion not to treat syphilis in interstitial keratitis but to regard the disease as post-syphilitic and improve the general health in every way possible, clearing up the indications of the disease as far as possible.

DR. GEORGE W. MACKENZIE (closing), expressed his pleasure with the discussion and thanked the gentlemen who took part in it.

Regarding Dr. Shambaugh's question about exacerbations following the use of arsenical preparations, Dr. Mackenzie thought that a paper published several years ago by Dr. Beck in which he stated his experience with the Herxheimer reaction and other things, including neurorecurrences, would answer Dr. Shambaugh's question. Before the day of arspenamin many other preparations were used, and the big objection being that the arsenic hit the central nervous system too often and too hard, more particularly the cranial nerves, so the Jap, Hata, with Ehrlich, tried to obtain a synthetic arsenic preparation that would not do these damages. Their success was challenged for a while when some odd cases of damage to the second and eighth nerves were reported. But in those cases it was found that upon pushing the arsenic preparations still further and harder, the conditions that appeared to be caused by the arsenic cleared up showing that the apparently bad results were produced by insufficiency of treatment rather than by the salvarsan itself.

Regarding Dr. Wilson's question about the 20 milliamperes, Dr. Mackenzie said that in the paper he stated that he used 20, or as much as the patient could tolerate. Very few of them could tolerate more than 10 or 12 m.a. He thought one did not need to use more than 8 but occasionally he goes as high as 12. He had tried the 20 on himself and admitted that it was very painful. If the technic was good Dr. Mackenzie was sure that it was possible to get reaction that could be observed with the eye long before the appearance of vertigo, and any patient who had a falling reaction because of the galvanic current already had marked nystagmus, the difficulty being that the operator did not recognize it. The nystagmus obtained with the galvanic test is a mixed rotary and horizontal nystagmus, because the end organs are being stimulated in all three canals.

The first requisite in making this test is a good light. The operator must get into a favorable location, with a head mirror in position and, standing in front of the patient, throw the light into the patient's eyes obliquely. Next, the head must be tilted very slightly backward with the lids elevated by the thumb of the examiner so that the equator of the globe may be observed. A movement of $\frac{1}{2}$ mm. at the corneal limbus is equivalent to 2 mm. at the equator. With the head tilted backward and lid elevated, one can distinguish well what would be a very tiny nystagmus at the corneal limbus. The question has been asked, why not try for a big movement? The same objection applies here as in the case of after-nystagmus.

In after-turning nystagmus one will notice a wide excursion nystagmus immediately upon stopping turning which can be seen at a considerable distance through the normal palpebral fissure which gradually slows down until it ceases alto-

gether. The most essential thing to do is to time the nystagmus and if one is not a keen observer he will surely miss the fine movements toward the end of the reaction or, say, after fifteen seconds, when he is apt to record the after-nystagmus as fifteen seconds. The careful examiner should study the movements in the after-turning test until they cease altogether. From the fifteenth second on to the twenty-fourth, the movements will be observed to become finer and finer until it becomes a question whether there is any movement or not. He thought it was well to use a split second stop watch and snap the moment the examiner thinks the movements cease and again when he is dead sure they have. If one produces with galvanism a big, coarse nystagmus, the question of the personal equation enters too much. The proper thing to do is to use the least amount of milliamperage that is required to produce the least amount of nystagmus. Nystagmus which is just as fine as that noted after the sixteenth or seventeenth second in the case of after-turning nystagmus. Otherwise the test would be of no value.

Dr. Mackenzie thought he might have left some confusion in the minds of some of those present as to the types of syphilis of the temporal bone. He had described during the last several years the types of syphilis he was best acquainted with and which were possible of differentiation by the galvanic test. There are other forms which he did not feel prepared to discuss at this time. Parasyphilis or metasyphilis is not tardy syphilis; they are entirely different conditions. Neurolabyrinthitis is not syphilitica tarda but the result of syphilis of the meninges that every syphilitic patient manifests more or less during the secondary stage. When a patient has syphilitic meningitis of the arachnoid and more especially of the pia, there is not only the meningitis present but meningo-encephalitis. Later there is cicatrization and nothing scars like syphilis. After several years of contraction of the previously inflamed membrane and cortex, atrophy of the cortex of the brain results; in other words, paresis. The same explanation holds in the case of the spinal cord. In the Lissauer zone, where there is no medullary sheath to the fibers of the posterior roots we have a place where the resistance is weakest that is most affected and when the pia shrinks it gives rise to the so-called lightning pains of tabes. If it happens to hit the fifth nerve, the patient is liable to have (in the cervical type of tabes) *tic douloureux*. Dr. Mackenzie recalled a case in which the Gasserian ganglion had been operated and removed. The patient subsequently was seen in the Neurological Clinic and still had pains because the Gasserian ganglion is peripheralward of the roots of the sensory part of the fifth nerve. The same process takes place in the eighth nerve, when we have a primary atrophy, due to the effects of the original neurosyphilis and the subsequent contraction that takes place in the meninges. Retrolabyrinthine primary atrophy of the eighth nerve is comparable with primary atrophy of the optic nerve. This is perhaps the condition Dr. Dean had in mind. In these cases the deafness is due to primary atrophy of the nerve and not to Hutchinson's syphilitic triad. Primary atrophy is due to the late effects of earlier neurosyphilis.

Regarding Dr. Heitger's statement concerning the fact that they found only three cases of the Hutchinson triad in 700 cases of congenital syphilis studied in St. Louis, Dr. Mackenzie said that the reason for this was that if a child was affected at thirteen years of age with a syphilitic keratitis, that child usually was sent to the eye clinic. If it happened to be affected with difficulty of hearing it was sent to the ear clinic. Dr. Mackenzie thanked Dr. Heitger for making clear his early experience and then his later experience with the galvanic test, and thought he would bear him out that he had found the nystagmus present before the patient complained of vertigo and without any falling reaction. Some children are a little fearful if one starts with electricity, but after obtaining their confidence the test can be made quite readily. He invariably makes the galvanic test and where it is necessary makes all three and then asks the patient which was the most painful. They invariably say the caloric test no doubt because it produces, with the head erect, rotary nystagmus; besides, the caloric test is more unpleasant for the reason that it is less under control and is prone to produce vomiting and severe vertigo. He believed the least unpleasant test of all was the galvanic.

As to the technic, the observation of the nystagmus was of the greatest importance. Dr. Mackenzie uses an electrical apparatus made by Geiger of Philadelphia, which was designed for his particular purpose. He formerly used the current from the building in which his office was located which generated its own current and which was supposed to be 110 volts but really averaged about 90 volts. He has an ammeter which is full jeweled, the same as a full jeweled watch. As to voltage and milliamperage, he did not know the exact difference, whether 220 or 110 volts would produce any difference in effect so long as the milliamperage remained the same. Where he is located at present he uses the street current of 110 volts. So far as the ammeter readings were concerned, he could see no difference in the reaction between the current formerly used which tested out at 90 volts and that which he is using at present, which is 110 volts. He was not expert enough to answer the questions raised by Dr. Richards. In his opinion the apparatus could be used with the street current because he is now getting just as satisfactory results as when he used the 90 volts.

A very essential point in the work is to see that the electrodes are perfectly wet. He uses normal saline solution; has the electrodes dripping wet, with a small ball electrode for the ear with contact that can be made and broken at will. He has a polarity switch in connection with the instrument. It is necessary to have an assistant to control the current and read the meter. He does not know the polarity when making the test, but the moment he observes the nystagmus he notes the polarity. He starts with a low current and is never satisfied with one test. If a questionable reaction is observed at 3 or $3\frac{1}{2}$ m.a. and at 4 or 5 the movements are unmistakable, the reaction is positive somewhere between $3\frac{1}{2}$ and $4\frac{1}{2}$ m.a., and is generally credited as 4. He is not satisfied with one test alone but repeats it. It is absolutely necessary to have a good light, to look for eye movements at the equator of the globe, to use a very small ball electrode, or put the electrode into the canal, ignoring the tragus, and have the electrodes very wet.

As to the electrode applied to the tympanic membrane, Dr. Mackenzie saw no objection to this and hoped that Dr. Salinger would continue using it in that way and give the results of his findings at a later date.

Dr. Mackenzie had obtained some very definite results with 4 m.a. of current. It is known that if the skull is fractured from any cause whereby the petrous bone is not only broken but the fragments are displaced and overriding, and the patient discharges from the ear, not only blood but spinal fluid, then the inner ear must be out of function. In cases of this kind mixed horizontal and rotary nystagmus to the opposite side is found, with complete deafness, because he has lost the tonus from the ampulla of all three semicircular canals, which was present when the ear was intact. The tonus is lost immediately the labyrinth is destroyed and the balance is in favor of the other side. The amount of loss can be measured with galvanism. The minimum amount of anodal current to produce nystagmus to the opposite side comparable with destruction is 4 m.a. This indicates that the tonus loss by the destruction equals 4 m.a. He has verified this, for although the patient's labyrinth is destroyed, the nerve stem is intact and reactive, and by applying 4 m.a. of cathode stimulation to the destroyed side, the nystagmus to the opposite side is arrested. Applying 4 more m.a. to the destroyed side, making a total of 8 m.a. stimulation, produces a nystagmus toward the side of destruction.

Dr. Mackenzie extended a cordial invitation to anyone who happened to be in Philadelphia to visit him and said he would be glad to go over the galvanic test with them and demonstrate the technic.

CRAWFORD COUNTY

Regular monthly meeting of the Crawford County Medical Society met in the Library of the Robinson Hospital at 2 o'clock, February 14, Dr. O. G. Taylor presiding, with twelve members present.

The matter of establishing a Public Health Unit in Crawford County was discussed most thoroughly by

the members present. A motion was made that a committee be appointed to investigate this matter further from all angles and to confer with Board of Supervisors.

An amendment to the above motion was made that the various civic organizations, such as Chambers of Commerce, be interviewed and the matter explained to them.

The motion with its amendment was carried and the following committee appointed by the Society: Drs. C. E. Price, Voorheis and Henry and the Secretary made an ex-officio member.

The scientific side of the program was then taken up.

Dr. G. H. Henry made a very able and scientific talk on Goiter. His remarks were timely and to the point and displayed a great deal of thought and work on the part of Dr. Henry in preparing his paper.

Dr. B. L. Price then read a paper on Review of the Treatment of Pneumonia for 20 Years. Dr. Price covered the ground very thoroughly in a short paper on such a large subject.

Their being no further business, adjournment was taken.

L. P. SLOAN, Secy.

SEND ON DATA FOR MEDICAL BLUE BOOK

The publishers of the Illinois Medical Blue Book, McDonough & Company, 416 S. Dearborn St., Chicago, desire data pertaining to every doctor in Illinois. Blanks have been sent out to the doctors but thus far responses have been slow, the doctors seem not to realize the importance of prompt attention to this matter. We urge every physician and surgeon to send in their data at once so that the medical directory may be gotten out at once. This medical directory of the physicians in Illinois is of great value to the profession. New editions of this book have been gotten out each year for decades and we should all help to make the directory as accurate as possible.

Send on the data pertaining to yourself at the earliest possible moment.

Marriages

DUKE R. GASKINS, Harrisburg, Ill., to Miss Carmen Patterson of Carthage, Mo., January 18.

WILLIAM JAMES HURLEY to Miss Frances Anna Kreuz, both of Chicago, January 23.

LAWRENCE H. ROBLEE to Miss Beatrice Angela, both of Chicago, February 16.

Personals

Dr. Wilson K. Dyer has been appointed assistant superintendent of the Kankakee State Hospital.

Dr. George Thomas Palmer has been appointed a member of a committee to establish institutional standards for the sanatoria of the country, under the supervision of the National Tuberculosis association.

Dr. Budd C. Corbus, Chicago, spoke on "Diathermy in Urology" before the St. Louis Medical Society, February 12.

Dr. Dean Lewis was the guest of honor of the Peoria Medical Society in that city, February 5. He spoke on "General Infections and Their Treatment."

Dr. Robert H. Herbst, professor of urology at Rush Medical College, addressed the Scott County Medical Society in Davenport, Iowa, February 5.

Dr. George E. Shambaugh read a paper before the section of otology of the New York Academy of Medicine, February 8, entitled "Review of Personal Researches on the Structure of the Internal Ear."

Dr. Ray Mercer, Quincy, has been appointed commanding officer of the new medical unit of the One Hundred and Third Infantry, Illinois National Guard.

Dr. John D. McGowan has retired as chief surgeon of the Commonwealth Edison Company after twenty-five years' service. Dr. Arthur V. Allen will succeed him.

Dr. Charles S. Bacon, head of the department of obstetrics and gynecology at the University of Illinois Medical School, has been appointed chief of staff of the new Salvation Army Hospital for women.

At the annual meeting of the Chicago Ophthalmological Society, January 21, Dr. J. Brown Loring was elected president; Dr. Charles G. Darling, vice-president, and Dr. Charles P. Small, secretary-treasurer.

Dr. Robert C. Cook, assistant pediatrician, division of child hygiene and public health nursing, state department of public health, has been appointed acting chief of the division to succeed Dr. Clarence W. East, who resigned February 1.

Part of the \$600,000 estate of Mrs. Clara A. Abbott, widow of the founder of the Abbott Laboratories, has been left to "advance the causes of medical, surgical and chemical charities," according to the terms of her will.

On February 12, several hundred Chicago

physicians attended a dinner in honor of Dr. James B. Herrick. Dr. Ludwig Hektoen presided, and addresses were read on the various aspects of Dr. Herrick's career.

Dr. Wilhelmina Jacoba Jongewaard, Chicago, has been appointed to the infant and child hygiene division of the Indiana State Board of Health to succeed Dr. Myrta Wilson, who resigned to go to Africa as a medical missionary.

News Notes

—The new Salvation Army Hospital, for women, North Crawford Avenue, will be formally opened, April 15.

—A \$60,000 addition will be erected by the Holden Hospital, Carbondale, about April 1.

—Plans have been made for the erection of a \$90,000 addition to St. Mary's Hospital, Streator.

—The Community Hospital, Geneva, has issued bonds for \$100,000 to erect a new building.

—It is proposed to erect a \$60,000 addition to the Municipal Tuberculosis Hospital, Peoria, in the near future.

—Plans have been made for the erection of a \$500,000 addition to Mount Sinai Hospital, California avenue.

—The next regular meeting of the Chicago Orthopedic Club will be held at the Home for Destitute Children, Paulina and Park avenues, at 8 p. m., March 14, 1924.

—The Berwyn Medical Unit, Berwyn, of which Dr. Arthur MacNeal is in charge, is having plans drawn for a \$75,000 addition.

—Plans have been drawn for the new Illinois Masonic Hospital which will be erected at a cost of \$250,000 on Wellington street. Most of the money has already been subscribed following a drive for funds.

—The city council health department has appointed a committee to consider the remodeling of the House of Correction Hospital, as a home for the free treatment of drug addicts. The hospital is not in use at the present time.

—The department of public welfare and the board of trustees of the University of Illinois announced that the new group of medical buildings will be dedicated, March 6, in the library building, at Polk and Lincoln streets.

—The Chicago Tuberculosis Institute is devoting much space in windows downtown to

exhibits, which include automatic stereopticon pictures, moving pictures, posters, booklets, and material illustrating various phases of the institute's program.

—At the annual meeting of the Chicago Society for the Prevention and Relief of Heart Disease, February 8, the following officers were reelected for the ensuing year: President, Dr. James B. Herrick; Dr. Robert B. Preble, vice-president; Dr. Sidney Strauss, secretary, and Dr. Robert H. Harvey, treasurer.

—Dr. Clarence W. East, medical director of the Illinois Crippled Children's Society, has opened offices in St. John's Hospital, Springfield, where the medical headquarters of the new organization will be. The first crippled children's clinic under the new system was conducted in Quincy, February 4.

—Dr. Arthur Edgar Price, according to reports, was sentenced to one year at Fort Leavenworth, February 8; he pleaded guilty to violation of the Harrison Narcotic Law. Dr. Price was formerly instructor in clinical surgery at the College of Physicians and Surgeons of Chicago (University of Illinois Medical Department) and was a captain in the medical corps during the World War.

—Word has been received by state director of health that the American Child Health Association will conduct surveys, during the present year, in Cicero, Decatur, East St. Louis, Springfield and Rockford. The object of the surveys is to secure data which will show what measures are being applied in child health service and which of these offer the most promising field for the association. The surveys in Illinois are a part of a general program reaching into thirty-one states.

—Dr. Isaac D. Rawlings, state director of public health, announces that a considerable volume of mail, relating in one way or another to the operation of the medical practice act, reaches his office weekly. He calls attention to the fact that all matters of licensure of physicians, midwives, nurses and all other professions or callings for which state licenses are required, are handled by the state department of registration and education. Legal or other procedures relative to these matters come under the jurisdiction of the department of registration and education.

—Six Chicago physicians have been barred from practicing in Connecticut according to reports. They are among the 129 whose licenses were revoked on charges of "fraud and deceit" by the special grand jury investigating the diploma mill scandal. Chicagoans named in the proceedings, according to reports, were Harry J. Schireson, Sigurd Jergens, Nicholas A. Perri, Max Feldman, Monte Val Robinson and Edward A. Kesten. The first two hold diplomas from the Kansas City College of Medicine and Surgery, the others from the St. Louis College of Physicians and Surgeons. Schireson, according to reports, was sentenced in New York for six months for violating the medical statutes and for ten months in Pennsylvania for conspiracy to defraud. He was also indicted in Utica, N. Y., for grand larceny and escaped.

—The Adams County Medical Society Bulletin made its appearance in the field of medical publications, last month, and is one of the best bulletins that comes to the JOURNAL. Under the editorial supervision of Dr. Harold Swanberg, secretary of that society, the first issue is a distinct credit to the editor and the society. Its motto, "To help develop and foster the interests of the medical profession and to fight the steady inroads of the state in the practice of medicine" will find a sympathetic response far beyond the confines of Adams County.

—An examination for the position of Junior Physician — Tuberculosis, Oak Forest Institutions, will be held by the Cook County Civil Service, March 18, at 2 p. m. Local residence is waived.

—The Henry Enos Tuley Memorial Fund.—Friends of the late Dr. Henry Enos Tuley, dean of the School of Medicine of the University of Louisville, are endeavoring to raise by voluntary subscription a memorial fund of at least \$1,000, to be held in trust by the university trustees, the income from the fund to be awarded annually at commencement to that undergraduate who submits the best essay on "The Ideals of a Doctor." Friends of Dr. Tuley, alumni of the University of Louisville, and every one who has admired the life work of Dr. Tuley, are invited to send their checks made payable to the Henry Enos Tuley Fund, 101 West Chestnut street, Louisville, Ky. Acknowledgment of all subscriptions will be made in the alumni bulletin of the school.

Deaths

LEE DAVIS APPLEWHITE, East St. Louis, Ill.; St. Louis (Mo.) College of Physicians and Surgeons, 1898; member of the Illinois State Medical Society aged 50; died January 15, of heart disease, while attending a patient.

HENRY MARTIN BOLDT, Ellisgrove, Ill.; Missouri Medical College, St. Louis, 1879; member of the Illinois State Medical Society; aged 72; died, January 19.

WILLIAM O'REILLY BRADLEY, Galesburg, Ill.; University of Buffalo (N. Y.) Department of Medicine, 1883; a Fellow A. M. A.; formerly president of the Knox County Medical Society, and mayor of Galesburg; on the staff of the Galesburg Hospital; aged 62 died suddenly January 30, of edema of the lungs.

BERT EMORY FAHRNEY, La Salle, Ill.; Chicago Homeopathic Medical College, 1897; a Fellow A. M. A.; aged 50; a member of the Illinois State Medical Society; formerly assistant health officer of LaSalle, Oglesby and Peru; active in fraternal and Red Cross work; was found dead in bed, February 1, of heart disease.

JOHN CHRISTOPHER FOLEY, Waukegan, Ill.; Rush Medical College, Chicago, 1890; a Fellow A. M. A.; for twelve years health commissioner of Waukegan; aged 60; died, January 22, at Miami Beach, Fla., following a long illness.

GEORGE HENRY HANSEN, Chicago; Rush Medical College, Chicago, 1896; a Fellow A. M. A.; specialized in otology, laryngology and rhinology; aged 60; died, February 11, at Beloit, Wis., of pneumonia.

CHARLES NORMAN HAZELTON, Morrison, Ill.; Hahnenmann Medical College and Hospital, Chicago, 1875; aged 76; died, January 30, of heart disease.

ERNEST SAURENHAUS, Chicago; University of Heidelberg, Germany, 1887; a Fellow A. M. A.; at one time professor of obstetrics at the Bennett Medical College, Chicago, and the University of Illinois College of Medicine, Chicago, and professor of gynecology at the Chicago College of Medicine and Surgery; formerly on the staffs of the Grant, St. Elizabeth's, St. Mary's, St. Anthony's and Mary Thompson hospitals; aged 64; died suddenly, February 1, of heart disease.

HENRY G. SCHUESSLER, Joliet, Ill.; College of Physicians and Surgeons, Chicago, 1898; aged 50; died, November 24, 1923.

GILMAN G. SHAW, Bradford, Ill.; Eclectic Medical College of Pennsylvania, Philadelphia, 1866; aged 82; died, January 24, of senility.

CHARLES SEIMER SKAGGS, Harrisburg, Ill.; St. Louis (Mo.) University School of Medicine, 1907; member of the Illinois State Medical Society; formerly member of the state board of health; aged 39; died, December 29, 1923, of pneumonia following injuries received in an automobile accident.

DR. ANDREW E. MILLER, Metropolis, Ill.; Ohio Medical College, 1896; formerly Chief Anesthetist of Walbright Hospital, Metropolis; aged 52 years; died at his home in Metropolis, of myocarditis after an illness of several months.

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ILLINOIS STATE MEDICAL SOCIETY ANNUAL MEETING, SPRINGFIELD, MAY 6-8, 1924

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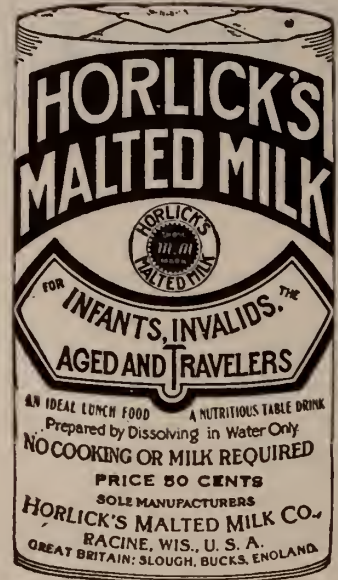
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State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6221 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Wm. D. Chapman, Silvis, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 927 Lawrence Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

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Editorial

LAY EDUCATION COMMITTEE BEGINS CONCRETE WORK

The Lay Education Committee of the Illinois State Medical Society announces the organization of a service bureau at the rooms of the Chicago Medical Society, 25 East Washington Street, under the present direction of Miss B. C. Keller, professional sales and publicity counselor.

This bureau is designed to furnish accurate, first-hand information about the achievements and activities of the medical profession in Illinois through every available medium to the public interest. The lay press in Illinois, press syndicates, and national publications having a considerable circulation within the state will be supplied with news and feature stories emphasizing the doctor's point of view on every current topic that touches his interest. The work of the Speaker's Bureau will be pushed and opportunities provided for effective talks from radio broadcasting stations and before representative and influential men's and women's organizations. In sections where newspapers are unfriendly or ineffectual, direct mail methods will be used by branch societies as a unit.

It is proposed that material for this educational campaign be obtained by working closely with the officials and the chairmen of standing committees of state, city, branch and county organizations. Miss Keller's job is to help busy doctor's identify events of news value in their own organizations and to take off their hands the mechanical labor of putting such news in shape to command lay interest and attention. She can do effective work only if she knows what you want, for a mass of news matter not in line with educational needs as you find them in your own practice and your own community will defeat the ends for which this campaign is designed. The committee urges that you get in touch with this service bureau and keep in touch with it. Give

yourself a chance to get full value from the educational fund by helping to direct its plans and policies.

THE COMMITTEE ON LAY EDUCATION.

Jas. H. Hutton, Chairman.

Wm. D. Chapman,

Chas. J. Whalen,

R. R. Ferguson.

LAY CHAMPIONS OF MEDICAL PROGRESS

In 1923 a national lay organization was incorporated for the following purpose:

First, to encourage and aid all research and human experimentation for the advancement of medical science.

Second, to inform the public of the truth concerning the value of scientific medicine to humanity and to animals.

Third, to resist the efforts of the various persons and societies constantly urging legislation dangerous to the health and well being of the American people.

In asking for the support of the public in an effort to check the growing menace to the health of the people, the president, Thomas Barbour, of the Agassiz Museum of Comparative Zoology, has sent out a letter which reads as follows:

"We are writing to ask your cooperation in an effort to check a growing menace to the health of the people.

"Within the last fifty years many societies have been organized to prevent the advancement of medical science by experimental methods, to break down the bulwarks of preventive medicine, and to substitute for the scientific treatment of disease various forms of pseudo-science and quackery. We are in a position to know that these organizations have reached the danger point. It must be fully understood that if this anti-medical program should succeed, the hands of the doctors would be tied and no further progress in experimental medicine could be expected. No reliable insulin would be available for diabetics, no anti-toxin would be possible for diphtheria or lockjaw, no vaccine could be procured to protect the country against smallpox, and it would be utterly impossible to test such essential drugs as ergot, pituitrin and digitalis.

"With a view, therefore, to resisting the efforts of these societies there has been organized and incorporated a National lay society "Friends of

Medical Progress." This organization will undertake to inform the public of the truth concerning the value of scientific medicine to humanity and to animals, and will oppose legislation dangerous to public health. By so doing it will perform a highly important function, hitherto assumed with difficulty, as a civic duty, by the medical profession.

"The society hopes to extend its influence throughout the United States. How far it will be able to do this depends upon the response of the public. We ask you to co-operate with us."

THE ROCKEFELLER INSTITUTE THE UNIVERSITY OF WISCONSIN—THE A. M. A. AND THE PUBLIC HEALTH INSTITUTE

The following from the official bulletin of the Chicago Medical Society is published for the purpose of informing the medical profession how easily reputable men and managers of supposedly ethical medical concerns can readily be hoodwinked by propagandists representing unethical institutions like the Public Health Institute of Chicago.

We wonder whether those in charge of the Department of Pharmacy of the Rockefeller Institute are aware of the character of the Public Health Institute of Chicago, to which they have intrusted the use of tryparsamid for experimental use, and to which physicians of this section of the country must go for a supply of the drug, if desired for the use of their private patients? We think not.

The fact that the Board of Directors of the Public Health Institute, together with the Rockefeller Institute contributed certain sums of money for experimental research work, carried on by Dr. A. S. Loevenhart of the Department of Pharmacology of the University of Wisconsin, does not in any way improve the unethical character of the Public Health Institute of Chicago; for tainted money cannot buy principles, nor can it buy ethical medical men to carry on the work of this lay board of a semi-quack institute.

We believe neither the Rockefeller Institute, the University of Wisconsin nor even Dr. A. S. Loevenhart are aware of the unethical character of the Public Health Institute. Perhaps they are not aware of the fact that it does not have one single well-known G. U. Specialist, nor one single Syphilologist on its so-called attending staff,

nor on its consulting staff; perhaps they should be made acquainted with the fact that the only drawing power for its continued existence is by the use of, (1) brazen, full page newspaper advertising; and (2) always displaying the names of its well-known and influential Board of Directors. We believe that had these facts been made known to those several institutions, the drug would never have been entrusted to the Public Health Institute for use and distribution; nor would their money have been accepted to carry on this important research work. There are surely enough ethical institutions well able to finance such undertakings.

We also desire to call the attention of the officers of the American Psychiatric Association to the character of the Public Health Institute, which has been entrusted with the distribution of this new drug for paresis, and ask what part they played, if any, in the selection of such an institution for the study of anything scientific. Surely they know that we have in Chicago, G. U. Specialists and Syphilologists of world wide fame, who would not associate themselves with such an institution, but whose experience with tryparsamid would be of great value to the whole profession. We cannot say as much for the Public Health Institute.

The only reason, therefore, for choosing the Public Health Institute of Chicago as the dispenser of tryparsamid, must have been the fact that its Board of Directors contributed money for the research work.

We also believe the Journal of the A. M. A., fostered and supported by the Legitimate Medical Profession, far overstepped the bounds of propriety when they printed an article by Loevenhart on tryparsamid, when part of the money for the research work was furnished by the Public Health Institute, thereby furnishing the Institute with newspaper material for advertising to the public that the Medical Profession was behind such advertising; which it is not.

The whole affair is a sad miscarriage of good intentions on the part of several institutions and individuals, which and who, if they had known the facts concerning the character of the Public Health Institute, would have hesitated before becoming partners with an unethical institution, and one which is condemned by the entire Medical Profession of the United States and Canada.

HEREDITY AND STERILIZATION

Human arbitrary judgment as to the fitness of any especial class to constitute the breeding stock for the future race would appear to be rather fallible. Heredity is a subject where the exception has as good a chance as the rule to serve as proof.

Now modern sociologists in large numbers are much concerned with the limitation, or the complete hindrance of the propagation of offspring among certain classes whom these sociologists consider less desirable for society. With these sociologists "to sterilize or not to sterilize" seems to be the one rampant question.

Their certitude would seem open to argument, in fact rather a mortal assumption of supernatural authority.

How absurd is such self-assurance when dealing with the difficult subject of heredity is well illustrated by a communication of James R. Whitwell, M.B., medical superintendent of St. Audry's Hospital in Suffolk, to the *British Medical Journal* for July 8, 1922. This letter was written to disprove the rash assumptions underlying the propaganda for the sterilization of mental defectives. A much wider knowledge is required, Whitwell argues, than that which at present is based upon the well known history of such families as the "Jukes" and the "Kallikaks":

"As an example I will quote one carefully examined series of families mentioned by Langes (Denmark). Forty-four families supplied seventy mental patients to his institution; the most numerous represented had four members, the majority only one affected. In the ascending family lines of these patients, with their collateral branches, for a few generations, some 400 showed mental symptoms, varying from "excessive nervousness," "gloomy disposition" "variable temper," "excitability," and "eccentricity" to definite insanity. These same forty-four families, however, also produced two cabinet ministers, one ambassador, three bishops, eight prominent clergymen, three generals, several other high military officers, three admirals, several other high naval officers, three members of the High Court of Justice, two headmasters, two directors of well known institutions, eight hospital physicians, nine university professors, at least twenty-three holders of academic doctorates, and a large number of eminent officials,

business men, members of Parliament, teachers, and others of value to the community."

All of this goes to show how precious little is known on the subject of inheritance, which is often discussed with such infallibility by modern writers, and which many are ever ready to make the basis of legislation. Referring to the question of mental defectives, Goddard himself, the historian of the Kallikak family, says: "At best sterilization is not likely to be a final solution."

Great men of obscure birth are as famous as the proverbial lily in the slime and while one great statesman may be a high price to pay for consanguinity that is a civic liability generation after generation, what scientist of today can read accurately the future.

Humanity is much like the weather. Scientific instruments data, minds and calculations may prognosticate to a nicety, and lo Nature in a whim upsets the aridest of mornings into an afternoon tempest.

The law of averages is just sufficiently fallible to be at best a temporizing asset. Human calculations when applied to natural processes can at best be nothing more than a series of fluid ratios. Bad as the Jukes flare forth on all records, who knows what human benefactor may yet arise from this despised and expensive strain? The chances are all against such manufacture of "a silk purse from a sow's ear," yet genealogists dig out strange ancestral history. It is a wise man who knows with exactitude the comparative turpitude of his forbears, or who dare wager with certainty upon the integrity of his posterity. The best chefs allow the possible miscarriages of tried and true recipes.

THE COMMITTEE ON MEDICAL HISTORY OF ILLINOIS

In conformity with the report of the editor at the annual meeting in 1922, and again in 1923, and approved by the House of Delegates of the State Society, recommending the preparation for the Diamond Jubilee of the State Society in 1925, the history of the State Society and medical practice in the state since the incorporation of the society, June, 1850, the president of the Society has appointed a committee on medical history of the State Society as follows: Dr. O. B. Will, Peoria; Dr. Geo. A. Dicus, Streator; Dr. Carl E. Black, Jacksonville; Dr. Charles B.

Johnson, Champaign; Dr. James H. Hutton, Chicago; Dr. Charles J. Whalen, Chicago, chairman.

Members of the profession having data in their possession that has a bearing on history of medical progress in Illinois will confer a great favor by loaning same to the committee. Data may be forwarded to any member of the committee; same will be duly acknowledged and returned to the owner if desired.

The profession will be interested in learning of the especial activities of the Society from its founding in 1850 until the beginning of the year 1925. Included should be the membership lists; the history of the parent and the district medical societies; publication; police duty and discipline; malpractice defense; a chronological list of officers, biographies of founders; principal officers and members of unusual prominence; meeting places during the progress of the years, and portraits of those who have carried the burden of keeping the Society up to its best capacities. Among the reproductions of historic and important documents should be one of the bill for a charter filed in 1850. None of these points should be overlooked. Many others will come to mind as the task progresses.

Members of the Society will be interested in learning how their organization came into being; who were its founders; what they were like; and what men and women, among the host of members from the inception of the Society until the present day, were most active in cherishing the Society and in forwarding its development. It is inspiring to trace the way in which the membership has increased since 1850; the way in which the standing committees were organized and what they have accomplished; the relation of the Society to progressive health legislation—such as the founding of the first state board of health, and the medical legislation enacted, as well as constructive opposition to vicious medical legislation and the attacks on the Society by the quacks and other interests; the Society's survival of attempts at its disruption; and the objectives for which it has striven during its lifetime.

This history and scores of correlative details will be of interest to the profession and of value as a unit in the future history of the State of Illinois, the representative commonwealth of the Mississippi Valley. When the diamond jubilee arrives this record should be ready.

ILLINOIS STATE MEDICAL SOCIETY PRELIMINARY PROGRAM

SEVENTY-FOURTH ANNUAL MEETING

Springfield, May 6, 7, 8, 1924

ORDER OF PROCEEDINGS

Registration office at the rear of Exhibit Hall,
Elks Auditorium.

SECTION ONE

SECTION ON MEDICINE

Chairman—J. E. Tuite, 404 Trust Bldg.,
Rockford, Illinois.

Secretary—J. H. Hutton, 6054 Cottage Grove
Ave., Chicago, Illinois.

SECTION TWO

SECTION ON SURGERY

Chairman—R. W. McNealy, 25 E. Washing-
ton St., Chicago.

Secretary—Ben D. Baird, Galesburg, Illinois.

SECTION THREE

SECTION ON EYE, EAR, NOSE AND THROAT

Chairman—W. L. Noble, 31 N. State St., Chi-
cago, Illinois.

Secretary—W. R. Fringer, Wm. Brown Bldg.,
Rockford, Illinois.

SECTION FOUR

SECTION ON PUBLIC HEALTH AND HYGIENE

Chairman—S. S. Winner, 1630 S. Sawyer
Ave., Chicago, Illinois.

Secretary—D. J. Lynch, 6205 Broadway, Chi-
cago, Illinois.

First Day—Tuesday Morning

9:30—Diagnostic and Demonstration Clinics of
the Section on Eye, Ear, Nose and
Throat, Elks Building. Other Clinics:
Local Committee.

First Day—Afternoon

2:00—Call to order of the Society in General
Session by the President, E. H. Ochsner,
Chicago.

Invocation.

Address of Welcome.

Report of the Chairman of the Com-
mittee on Arrangements.

3:00—Call to order of the Secretaries' Con-
ference, President C. P. White, Ke-
wanee, in the Elks Building.

First Day—Evening

8:00—Address open to the Public, President
E. H. Ochsner.

9:15—Call to order of the House of Delegates,
by the President E. H. Ochsner.

Second Day—Wednesday Morning

8:30—Call to order of the several sections for
the reading and discussion of the papers
of the program.

12:00—Adjournment for luncheon.

Second Day—Afternoon

1:30—Call to order of the Sections for the con-
tinuation of the program.

5:30—Adjournment for dinner.

Second Day—Evening

Entertainment for Members and Guests by Lo-
cal Committee.

Third Day—Thursday Morning

8:30—Call to order of the House of Delegates
for the election of Officers, and of the
Sections for the continuation of the pro-
gram.

8:30—Symposium on Goiter, Section One and
Section Two.

12:00—Adjournment for luncheon.

Third Day—Afternoon

1:30—Call to order of the Sections for the elec-
tion of officers.

2:00—Oration in Medicine, Dr. James J.
Walsh, New York City, N. Y.

3:00—Oration in Surgery, Dr. Vilray Papin
Blair, St. Louis, Mo.

4:00—Report of the House of Delegates.

Induction of the President-elect.

Continuation of the Section programs.

Final Adjournment.

SECRETARIES' CONFERENCE

President—C. P. White.

Secretary—J. S. Templeton.

PROGRAM

County Secretary and His Job—R. R. Fer-
guson, Chicago.

The Fake Doctor and Diploma Mill—Emmet
P. North, Missouri.

Responsibilities of the County Secretary—
Christian H. Diehl, Effingham.

Opportunities of the County Secretary—

Walter C. Blaine, Tuscola; Herman H. Cole, Springfield, and other Secretaries.

All papers by members shall be limited to twenty minutes and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

All papers read before the society or any of its sections shall become the property of the society. Each paper shall be deposited with the Secretary when read, and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance on the part of the writer that such paper has not already appeared and will not appear in medical print before it has been published in the ILLINOIS MEDICAL JOURNAL.

A paper not heard in its scheduled turn shall be held subject to the call of the Chairman of the section at the end of that regular session, if time permits; or, as an alternative, at the end of the program.

All discussions shall be confined strictly to the subject in hand.

No paper shall appear in the printed transactions of the meeting unless read in full or in abstract.

SECTION ON MEDICINE

Section One:

Chairman—J. E. Tuite.

Secretary—J. H. Hutton.

PROGRAM

Radium Treatment of Malignancy—Frank M. Hagens, Lincoln.

Discussion:

Early Diagnosis of Hernia of the Diaphragm—D. P. Abbott, Chicago.

Discussion:

The Relation of the General Practitioner to the Tuberculosis Problem—J. W. Pettit, Ottawa.

Discussion:

The Treatment of Lung Abscess—P. S. Winner, Chicago.

Discussion—Robert H. Hayes, Chicago.

The Changing Attitude in the Treatment of Pulmonary Tuberculosis—George Thomas Palmer, Springfield.

Discussion—Don W. Deal, Springfield.

A Bronchitis of Unusual Type—W. E. Shastid, Pittsfield.

Discussion:

Toxic Effects of Quinidine—James G. Carr, Chicago.

Discussion—Walter H. Spoenman, Chicago.

Vomiting of Visceroptosis—Roland Hazen, Paris.

Discussion—C. U. Collins, Peoria.

Scope of Periodical Physical Examinations—Leroy P. Kuhn, Chicago.

Discussion:

Intra-Peritoneal Injection of Fluids in Infants, for the General Practitioner—W. L. Crawford, Rockford.

Discussion—Julius Hess, Chicago.

Modern Conception of Stammering—Charles F. Read, Chicago (illustrated with lantern slides).

Discussion—H. Douglas Singer, Chicago.

Acromegaly, a Defect of Development—B. V. McClanahan, Galesburg.

Discussion—J. M. Behan, Galesburg.

The Juvenile Thyroid—H. C. Blankmeyer, Springfield.

Joint Symposium on Goiter—Charles L. Mix: Etiology, Symptomatology, Diagnosis, Prognosis. Charles A. Elliott—Treatment.

Austin A. Hayden—Goiter from the Standpoint of Eye, Ear, Nose and Throat Specialist.

Cardio-Renal Disease—Frederick Tice, Chicago.

The Visualization of the Biliary Tract. A New Method by Intravenous Injections of Petrabrom Phenol-Phthalein. Lantern Slide Demonstration.—Frank Smithies and Richard Bartlett Oleson, Chicago.

SECTION ON SURGERY

Section Two:

Chairman—R. W. McNealy.

Secretary—Ben D. Baird.

PROGRAM

Rupture of the Uterus Following Caesarian Section—George Weber, Peoria.

Discussion—Otto Rohrlach, Chicago.

Tumors of the Bone—Hugh MacKechnie, Chicago.

Discussion—Fred A. Perrigo, Danville.

The Standardization of Equipment for the Treatment of Fractures—Warren R. Rainey, St. Louis, Mo.

Discussion—T. L. Wiggins.

Preoperative Preparation of Prostates—Daniel Eisendrath, Chicago.

Discussion—E. S. Murphy, Dixon.
 Symptoms, Diagnosis and Treatment of Cancer of Bartholin's Gland—W. M. Orr, LaSalle.
 Discussion—Daniel N. Eisendrath, Chicago.
 Joint Injuries—Harry Mock, Chicago.
 Discussion—O. B. Pelton, Elgin.
 The Enigma of Appendicitis—R. E. Lee Gunning, Galesburg.
 Discussion—Karl A. Meyer, Chicago.
 The Treatment of Puerperal Infections—Frank Maple, Chicago.
 Discussion—A. W. Chandler, Rochelle.
 Craniocerebral Injuries—Paul E. Greenleaf, Bloomington.
 Discussion—C. C. Rogers, Chicago.
 Injuries About the Knee Joint, Their Diagnosis and Treatment—P. H. Kreuscher, Chicago.
 Discussion—H. A. Brennecke, Aurora.
 The Most Recent Advances in the Surgery of Trigeminal Neuralgia Major—William Coughlin, St. Louis, Mo.
 Discussion—George Davenport, Chicago.
 Preserving the Sphincter in Treatment of Fistula in Ano—Chas. Drucek, Chicago.
 Discussion—E. C. Kelly, Peoria.
 Ectopic Pregnancy and Acute Appendicitis—Mather Pfeifferberger, Alton.
 Discussion—W. A. N. Dorland, Chicago.
 Clinical Points in Surgery of Cholelithiasis and Cholecystitis—David Straus, Chicago.
 Discussion—Herman H. Cole, Springfield.
 Case of Glanders in the Human—C. A. Sihler, Litchfield.
 Discussion—Hugh N. MacKechnie, Chicago.
 Early Diagnosis and Treatment of Tuberculosis of Joints—Philip Lewin, Chicago.
 Discussion—Orville Wilhelmy, Decatur.
 Joints Symposium on Goiter—8:30 A. M. Thursday.
 Technique of Thyroidectomy—E. P. Sloan, Bloomington.
 Reducing Operative Mortality in Goiter Cases—F. G. Dyas, Chicago.

SECTION ON EYE, EAR, NOSE AND THROAT

Section Three:

Chairman—W. L. Noble.

Secretary—W. R. Fringer.

PROGRAM

Intracranial Complications of Suppurative Otitis Media—C. F. Yerger, Chicago.

Discussion—Frank J. Novak, Jr., Chicago.
 Etiological Treatment of Strabismus—W. E. Boynton, Chicago.
 Discussion—James S. Johnson, Cairo.
 Strabismus—Richard J. Tivnen, Chicago.
 Discussion—A. L. Adams, Jacksonville.
 Ultra Violet Therapy in a Few Nose and Throat Diseases—A. B. Middleton, Pontiac.
 Discussion—Geo. W. Boot, Chicago.
 Sarcoma of the Tonsil—Edwin McGinnis, Chicago.
 Discussion—Raymond R. Harrington, Chicago.
 Retrobulbar Neuritis, Bacillus Subtilis the Exciting Cause—J. Sheldon Clark, Freeport.
 Discussion—Wm. E. Gamble, Chicago.
 The Accessory Sinuses—Wm. Moore Thompson, Chicago.
 Discussion—Wesley Hamilton Peck, Chicago.
 Monocular Myopia—James E. Lebensohn, Chicago.
 Discussion—M. H. Lebensohn, Chicago.
 Incipient Cataract and Its Treatment—Jas. W. Sanders, Decatur.
 Personal Experience in the Treatment of Atrophic Rhinitis—Jas. A. Clark, Chicago.
 Discussion—Alfred Rundstrom, Chicago.
 Tonometry—H. S. Gradle, Chicago.
 Discussion—H. W. Woodruff, Joliet.
 Report of a Rare Benign Tumor—Pedicelated to Under Surface of Upper Lid—C. F. Burkhardt, Effingham.
 Discussion—Louis Ostrom, Rock Island.
 Further Results with Dilute Alcohol Nerve Blocking Anesthesia for Tonsillectomy—Robert Sonnenschein, Chicago.
 Discussion—Harry Kahn, Chicago.
 A Simplified and Effective Intra-nasal Tear Sac Operation with Report of Cases of Eight Years' Standing—E. E. Edmondson, Mt. Vernon.
 Discussion—J. Sheldon Clark, Freeport.
*Diagnostic and Demonstration Clinic—
 Tuesday, May 6, 9:30 A. M.*
 Capsulatus Otitis Media—Exhibition of Microscopic and Lantern Slides, N. Schoolman, Chicago.
 Complications of Mastoiditis Operation—Chas. Moore Robertson, Chicago.
 Neurology of Vision and the Pupil Reflexes—J. F. Burkholder, Chicago.
 The principles in Plastic Surgery About the Head and Neck—Joseph C. Beck, Chicago.

Glaucoma—H. W. Woodruff, Joliet.

The Surgical Treatment of Ozena Demonstrated by Lantern Slides and Specimens—N. Schoolman, Chicago.

Infections of Maxillary Sinus—Chas. H. Long, Chicago.

SECTION FOUR

SECTION ON PUBLIC HEALTH AND HYGIENE

Chairman—S. S. Winner.

Secretary—D. J. Lynch.

PROGRAM

Sanitation of Common Carriers—S. C. Beach.
Progress in Public Water Supply Development—Paul Hansen, C. E.

The Part Which Tuberculosis Should Take in a Public Health Program—George Thomas Palmer.

Popular Instruction in Diphtheria (with motion picture film)—Mr. Chas. F. Glueck, Boston, Mass.

Safeguarding the Public Health—C. St. Clair Drake.

Health Work in Industry—Frank Wieland.

Sins of Omission—E. W. Fiegenbaum, Edwardsville, Ill.

Training of the Youth—Dr. Lee A. Stone, Chicago.

Difficulties Met With in Collecting and Tabulating Vital Statistics—M. O. Heckard, Registrar of Vital Statistics, Chicago Department of Health.

Publicity Side of Health Work—Edward R. Pritchard, Secretary, Chicago Department of Health.

Public Health Service—W. F. Draper, Assistant Surgeon General, U. S. Public Health Service, Washington, D. C.

Public Health Work in Relation to County Board of Supervisors—J. B. Liston, Health Officer, Carlinville, Ill.

Clarification and Pasteurization of Milk—A. J. Clay, Secretary of Board of Health, Hoopeston, Ill.

Selection of Cases for County Tuberculosis Sanatoria—F. M. Meixner, Vice-President of Peoria County Tuberculosis Association.

PROGRAM

Exhibitors for the 1924 Convention

Cameron's Surgical Specialty Co., 110-112 W. Oak St., Chicago, Illinois.

Huston Brothers, 30 E. Randolph St., Chicago, Illinois.

White-Haines Optical Company, Springfield, Illinois.

Bacteriological Laboratories of G. H. Sherman, M.D., Detroit, Mich.

The Abbott Laboratories, 4753 Ravenswood Ave., Chicago, Illinois.

The Chas. H. Phillips Chemical Company, 80 Varick St., New York City, N. Y.

A. S. Aloe Company, 513 Olive St., St. Louis, Mo.

Standard Oil Company of New Jersey, New York City, N. Y.

Chas. A. Schmidt Instrument Company, 3531 Olive St., St. Louis, Mo.

C. V. Mosby & Company, 508 North Grand Blvd., St. Louis, Mo.

Hanovia Chemical & Mfg. Company, Chestnut St. and N. J. R. R. Ave., Newark, N. J.

Sharp & Smith, 65 E. Lake St., Chicago, Illinois.

Fellows Medical Mfg. Company, 26 Christopher St., New York City, N. Y.

Dental & Surgical Supply Company, 315 N. 10th St., St. Louis, Mo.

H. G. Fischer & Company, 2333-2335 Wabansia Ave., Chicago, Illinois.

Ciba Company, Inc., Cedar and Washington Sts., New York City, N. Y.

Pitman-Moore Company, Indianapolis, Ind.

Frank S. Betz Company, Hammond, Ind.

Mead Johnson Company, Evansville, Ind.

Radium Chemical Co., Marshall Field Annex Bldg., Chicago, Illinois.

The Standard Laboratories, 947-855 W. Jackson Blvd., Chicago, Illinois.

The Kolynos Company, 130 Bristol St., New Haven, Conn.

Mellins Food Company, Boston, Mass.

W. B. Saunders Company, West Washington Square, Philadelphia, Pa.

The Medical Protective Company, Fort Wayne, Ind.

John McIntosh Company, 1880 Ogden Ave., Chicago, Illinois.

Childs Drug Company, 223-33 W. Erie St., Chicago, Illinois.

The DeVilbiss Mfg. Co., Toledo, Ohio.

BeGole X-Ray Company, 341 West Chicago Ave., Chicago, Illinois.

Horlicks Malted Milk Company, Racine, Wisconsin.

Harold Surgical Corporation, 80 Pine St., New York City, N. Y.

Basile's Professional Supply House, 25 E. Washington St., Chicago, Illinois.

G. D. Searle & Company, 4611-4617 Ravenswood Ave., Chicago, Illinois.

ILLINOIS SUPREME COURT DECISION— DOCTORS' LICENSES SAVED. SUPREME COURT SAYS RULING DOES NOT APPLY TO THEIR RIGHT TO PRACTICE

THE SCHAEFFER CASE

Last month we published an opinion by the Supreme Court of Illinois in the case of *People vs. Robert E. Schaeffer*. Since the publication of that opinion the Supreme Court, on the presentation by the Attorney General of a motion for a re-hearing, modified it to such an extent that it is substantially without effect on the law now applicable to the licensure of physicians.

The opinion as originally filed revoked all licenses, both full licenses and limited licenses, granted between July 1899 and July 1923, and was, therefore, a serious threat to thousands of physicians who had obtained licenses in the state. But the modified opinion provides "that neither this decision nor the decision in the *Love* case in any way affects the legality of any license issued under any medical practice act of this state."

It is important to observe that the decision pertains only to the medical practice acts of 1899 and 1917, both of which are now repealed. Consequently the subject matter of the opinion is without application to the existing law. The licensure of physicians, both those practicing medicine and surgery in all their branches, and those practicing without the use of drugs and medicines and without operative surgery, is now controlled by the act of 1923, which expressly repealed the acts of 1899 and 1917.

The Schaeffer case was instituted before the passage of the act of 1923, when it was uncertain whether the act of 1899 or the act of 1917 was in force, and was begun in order to determine which of those statutes was in force at the time.

Schaeffer was arrested under the act of 1899 for performing a surgical operation. He admitted that he performed the surgical operation

described in the complaint, and defended himself on the ground that, having received a thorough course in surgery, he was entitled to practice surgery notwithstanding that he did not have a license to do so, and had only an osteopathic license.

His contention was based upon his assumption that the act of 1899 was discriminatory against persons who had had a complete surgical training but practiced as osteopaths. The Supreme Court held that under the act of 1899 he could not be legally licensed to do surgery, notwithstanding his alleged complete education in surgical training, because he had not received his surgical training in a medical school, having received it at the American School of Osteopathy, which was not recognized as a medical school.

We think the court was not justified in this interpretation of the act of 1899. A medical school, so far as education in surgery was concerned, was a school in which surgery was properly taught, notwithstanding that the school might not be called a medical school. It is not a matter of name but of substance. The Supreme Court of the United States held in *Collins vs. Texas*, 223 U. S. 288, that "the diploma of the plaintiff in error would not be rejected merely because it came from a school of osteopathy." That court further said: "Whatever may be the osteopathic dislike of medicines, neither the school nor the plaintiff in error suffers a constitutional wrong if his place of tuition is called a medical school by the act for the purposes of showing that it satisfies the statutory requirements. He cannot say that it would not have been regarded as doing so, *because he has not tried.*"

It appears to us that the court ought, therefore, to have required Schaeffer to make application for a license to practice medicine and surgery in all of their branches. Schaeffer had never made any such application. He applied for an osteopathic license only, and received it. He made no offer before the state examiners at any time to prove his surgical training. His contention was that, having the right to practice osteopathy, and having already had as good a course in surgery as that being taught anywhere in the world, he was entitled to practice surgery. How the court was able to overlook the insuperable objections to such a contention we are unable to see.

If Schaeffer had received the medical training which he alleged that he had received, it ought to have been assumed by the court that the state examiners would have granted him a license in surgery upon application therefor. It would have been in time for the court to intervene when they illegally refused to do so. The Supreme Court of the United States in the Collins case, to which we have just referred, also supported our contention in this respect, because it said in its opinion: "He (Collins) cannot say that it would not have been regarded as doing so, *because he has not tried.*"

The humor of the situation is that Schaeffer *proved* in the trial of his case in the Municipal Court that, to use the words of the Supreme Court, "osteopaths have, and particularly the appellant has had, training and education in the practice of surgery and obstetrics equal to that of graduates of the medical colleges." The "proof" referred to by the court consisted of Schaeffer's own statement of the nature of his training, supported by a deposition of his teacher in surgery at Kirksville, and a catalogue of the Kirksville School. The state was not represented by a lawyer at the trial in the municipal court of Chicago, and no evidence was introduced in opposition to the contentions presented by Schaeffer. Nothing was shown as to the qualifications of the instructors in surgery in the Kirksville school.

From this proof, and the lack of it, the Supreme Court, ignoring the well-known history of osteopathy entirely, made this statement in its opinion: "The act even assumes that the osteopath does not use medicines of any kind externally and does not study or practice operative surgery." If the act so assumed, it certainly assumed the truth, and exactly what the osteopaths have always alleged about the nature of their practice. In this respect the Supreme Court has been led into a denial of the plain facts of history. Such a denial is unfortunate for the court, but it will not change the facts of history.

The vice of the court's opinion is its erroneous representation of the nature of the proper education of a physician. The court proceeds on the assumption that different therapeutic agents are different "systems" of healing. It says: "The statute recognizes both *systems* as meritorious because it allows both to treat human ailments

according to their system, and it discriminates against the osteopaths and seems to place the examination of osteopaths to practice osteopathy entirely at the will and discretion of a medical board, as no one other than those educated in the medical system are qualified, under the act, to conduct the examinations provided for by it." Osteopathy is not a "system." It is a particular remedial agent in the general system of healing the sick. The use of the osteopath's remedial agent is no more the use of a "system" than is the use of electricity, radium, the x-ray, diet, water, or calomel. It is unfortunate that a great court should become as confused on plain fundamentals. We fear that the judges of the court read too freely of the catalogue of the Kirksville school.

The court says that under the act of 1899 the osteopath was "required to study the therapeutics of the allopaths or other medical schools which he does not desire to use in his practice before he can practice osteopathy and surgery, while the graduate of a medical school is not required to graduate in osteopathy or to study osteopathic therapeutics, and yet he may be licensed to practice, and may practice, osteopathy."

That is given by the court as one of the discriminatory features of the act. This is a further illustration of the court's misapprehension of the nature of the physician's duty as well as the necessities of the physician's education. An insinuation that a doctor who has had a complete course in a medical college, in order to prescribe the manipulation used by the osteopath, should take another course in an osteopathic school, is about the best example that we have seen of complete misunderstanding of an important situation.

The fortunate circumstance about this litigation is that the acts to which the case refers have both been repealed, and that it is now merely a matter of ancient history without effect on the existing law.

MAKE HOTEL RESERVATIONS EARLY FOR THE STATE MEETING

The annual meeting of the state medical society will be held in Springfield, Illinois, May 6, 7 and 8.

Those wishing to make hotel reservations should write direct to one of the hotels or to

Dr. Fred P. Cowdin of Springfield, chairman of the hotel committee.

SEE YOUR FAMILY PHYSICIAN EARLY —THE CANCER PROBLEM

Education as the antidote for the increasing number of deaths from cancer is being urged upon the entire country by the medical profession, aroused thoroughly to this national danger.

On the principle that a large percentage of cancers would be eradicable when taken in the pre-cancer stage, the campaign of cancer salvation assumes as its slogan:

"See your family physician early."

A large percentage of early cancers yield to many remedies. The hopelessness of late cancer is traditional. Further distress lies in the fact that there are practically no places of refuge for the cancer patient in the last stages of the disease. Even when dying in the family home, it is, speaking comparatively, impossible to secure proper nursing attention and therapeutic environment.

With the statistical contention that during 1922 there were 20,000 more deaths from cancer in the United States than there were in 1900, it is small wonder that the medical profession is leaping into the breach to help conserve the health of the nation against this leakage.

During the two years of American participation in the World War, about 80,000 soldiers were killed. In that same space of time right here in the United States 180,000 persons died of cancer.

Pneumonia, tuberculosis and typhoid fever rank lower than cancer as a death rate factor in men and women over forty years of age. Strictly speaking, cancer is an adult disease. One person out of every ten who is over forty years of age dies of cancer.

This scourge, attacking women more frequently than it does men, has a record of slaying one woman out of every eight and one man out of every fourteen who is over forty years of age.

Cancer's predominant menace is the insidiousness of attack. Small wonder that the medical profession, allying itself with the lay and professional American Society for the Control of Cancer, has set out upon a campaign of lay education. The primal lever in the campaign is

the instruction to visit reputable physicians at the initial appearance of any suspicious external or internal symptom. Avoidance of charlatans, whether professional or nearby "Sairy Gamps" and above all the optimism of early diagnosis are other vital points.

Uselessness of drugs and actual suicidal danger from self-dosage or faith cures are emphasized angles. In addition there is launched an elaborate plan of general information as to what is and what is not known about cancer.

The antiquity of the disease, dating back as it does to the fragmentary records of ancient India and Persia, and mention by the Egyptians as early as 1500 B. C., are dwelt upon.

Though it is admitted frankly that the cause of cancer is as yet unknown, the statements are made in equal candor and with equal exactitude that cancer is neither a "blood" disease, nor inherited, nor contagious. This campaign is a dispenser of warning, but not of despair. Rather may it be said to bear a torch of hope into many a home where worry sits by the fireside thanks to the passing of some relative from the dread disease.

That "cancer is first a lump or sore that can be felt with the fingers or seen with the eye," is of course a by-word applying to external cancers. The internal cancer gives its own alarm, but the sounding is in a different fashion. If ever drastic prophylaxis is needed anywhere certain it is in the handling of cancer.

Post-climacteric women and men of slightly older years are cancer's prey. Smoking or any continued irritation will cause a cancer. So will a roughened tooth or worn dentistry. Authorities agree that continued pressure will excite cancer. In Kashmir, where the people keep their hands warm with baskets of charcoal held over the abdomen, muff fashion, cancer of the abdominal skin develops frequently, rare as it is in this country. The irritation of the betel nut chewed almost constantly by Philippine and Malay women is held to be a cancer cause among them.

Whether the patient mistakes the sign for a cancer no harm can come from his thorough examination by a reputable physician. Rather if it is not cancer will the inspection be a source of congratulation. As indigestion is the American national disease, and as many as forty per cent of cases of cancer of the stomach give a

history of preceding gastric ulcer, a word to the wise should be sufficient.

Teach an American citizen where a trouble lies and he will get out and remedy it, nine chances out of ten. Let the American public realize the prevalence of cancer and the ease with which this menace may be overcome by early recognition of the condition and immediate treatment and the cancer battle will be half won.

BRING YOUR GOLF CLUBS TO THE STATE MEETING

Golf fans may enjoy their favorite pastime at the meeting of the Illinois State Medical Society, May 6-8. Thursday afternoon, May the 8th, has been specially set apart for golf games. The local committee of arrangements at Springfield will be glad to schedule anyone wishing to play golf.

REDUCED RAILROAD FARE FOR STATE MEETING.

This is a suggested form of advice for you to furnish members of your organization, regarding certificate plan fare reductions.

IMPORTANT NOTICE TO MEMBERS.

A reduction of one and one-half fare for the round-trip on the "Certificate Plan" will apply for members (also dependent members of their families) attending the meeting of Illinois State Medical Society, to be held at Springfield, Illinois. The arrangement will apply from the following territory:

Territory in Illinois and from the city of St. Louis, Missouri.

The following directions are submitted:

1. Tickets at the normal one-way tariff fare for the going journey may be bought on any of the following dates (but not on any other date): May 2-8, inclusive.

2. Be sure when purchasing your going ticket to ask the ticket agent for a certificate. Do not make the mistake of asking for a receipt. If, however, it is impossible to get a certificate from the local ticket agent, a receipt will be satisfactory and should be secured when ticket is purchased. See that the ticket reads to the point where the convention is to be held and no other. See that your certificate is stamped with the same date as your ticket. Sign your name to the certificate or receipt in ink. Show this to the ticket agent..

3. Call at the railroad station for ticket and certificate at least 30 minutes before departure of train.

4. Certificates are not kept at all stations. Ask your home station whether you can procure certificates and through tickets to the place of meeting. If not, buy

a local ticket to nearest point where a certificate and through ticket to place of meeting can be bought.

5. Immediately on your arrival at the meeting present your certificate to the endorsing officer, Secretary Wm. D. Chapman, as the reduced fare for the return journey will not apply unless you are properly identified as provided for by the certificate.

6. *No refund of fare will be made on account of failure to either obtain a proper certificate, or on account of failure to have the certificate validated.*

7. It must be understood that the reduction for the return journey is not guaranteed, but is contingent on an attendance of not less than 250 members of the organization and dependent members of their families at the meeting holding regularly issued certificates from ticket agents at starting points showing payment of normal one-way tariff fare of not less than 67 cents on the going trip.

8. If the necessary minimum of 250 regularly issued certificates are presented to the Joint Agent, and your certificate is validated, you will be entitled to a return ticket via the same route as the going journey at one-half of the normal one-way tariff fare from place of meeting to point at which your certificate was issued up to and including May 12th, 1924.

9. Return tickets issued at the reduced fare will not be good on any limited train on which such reduced fare transportation is not honored.

TRI-STATE DISTRICT MEDICAL ASSOCIATION CLINIC TOUR OF EUROPE.

Inter-State Post-Graduate Clinic Tour to Canada, British Isles and Paris in 1925 is now being arranged under the supervision of the Managing-Director's office of the Tri-State District Medical Association. The time for leaving will be about the middle of May.

The tour will consume, approximately, two months' time and the total cost from Chicago and back to Chicago again will be less than \$1,000. This will include all clinic arrangements and admissions and all traveling expenses, except meals on Pullmans in America and tips on the ocean steamer. First-class hotels will be used everywhere and the ocean passage will be on the largest and finest of the new one cabin ships.

Clinics are being arranged in Dublin, Belfast, Liverpool, Manchester, Leeds, Edinburgh, Glasgow, Newcastle, London and Paris and other points of clinical interest. The clinics will be conducted by the leading clinicians of these cities. The opportunity will be given, subsequently, to visit the clinic centers in other parts of Europe.

This tour is open to members of the profession who are in good standing in their State or Provincial Societies and their families and friends.

Sight-seeing programs will be arranged practically every day abroad, including the most scenic part of the countries visited, without extra cost.

On account of the great demand for reservations, applications should be made as early as possible to Dr. William B. Peck, Managing-Director, Freeport, Illinois. Preference in the assignment of hotel and

steamship accommodations will follow the order in which the applications are received.

WHO WILL EMPLOY AND DIRECT PHYSICIANS OF THE FUTURE?

Physicians who are interested in the general problem of better medicine and better public health for everyone, as distinguished from the clinical side of their work, will get some interesting information from an article by Willard S. Small, dean of the College of Education, University of Maryland, published as Bulletin No. 33 of the Department of the Interior at Washington.

Under the sub-heading of School Health Supervision, Professor Small says that two tendencies are noted in the administrative development of this work. These are "the broadening of the scope of medical inspection into school health supervision, and *recognition of the educational department as the logical administrative authority.*" This phase of his subject is further elaborated in the pamphlet.

He recognizes that the public health and medical work among school children is done under four kinds of administrative authority, (a) the educational authorities; (b) public health authorities; (c) private and voluntary health organizations, and (d) multiple authority. He states that administrative control of this particular branch of medical practice and public health is most frequently in the hands of departments of education and least frequently under the control of boards of health.

In his tabulated work he does not distinguish between the medical work done by physicians and that done by nurses.

The author is particularly pleased to note that during recent years most of the new laws and revision of old laws pertaining to health problems of the school specify them as part of the program of departments of education and not of departments of health or otherwise under medical control.

Documents of this character and other release propaganda received by editors from all sorts of sources are certainly interesting to physicians, whether they be practicing preventive or curative medicine, or both as they should be. They indicate very clearly the direction in which medicine in the United States is very rapidly moving.—C. S. J. of Med.

NEW JOURNAL DEVOTED TO CANCER

Cancer, a Practical Quarterly Journal Devoted to the Best Interests of Cancer, is the title of a new publication of F. A. Davis Company, of Philadelphia. Dr. L. Duncan Bulkley is editor, with Dr. Clarence D. Daniels as associate editor, and Dr. A. Hirst Appel, Dr. Seelye W. Little, Dr. Russell W. Kelsey, Dr. Edward Preble, and Dr. Thomas L. Stedman as collaborators. Dr. Bulkley states in the foreword that "the aim and purpose of this publication are to concentrate in convenient form all that will conduce to a

better knowledge of cancer as a disease, and its cause and proper treatment, in its different forms and manifestations in various regions of the body, and thus to aid in lowering its steadily rising morbidity and mortality." The journal comprises four sections—original articles, editorials, clinical reports, and reviews of literature.

THE JEALOUS TEMPERAMENT

Jealousy, as Charles Mercier ("Human Temperaments") shows, is by no means exclusively sexual. The sycophant is jealous of the persons to whom his patrons show inclination. The admiring school girl is jealous of the other girl to whom her adored mistress shows inclination. The child that passionately loves its mother is jealous of the new baby on which the mother lavishes caresses.

The basis of jealousy is the desire for the exclusive possession of the love, interest, or attention of another person, which the jealous person desires to hold in monopoly, and jealousy arises when the monopoly is infringed. Jealousy is often associated with love, but it is not necessarily so. Even sexual jealousy may be felt without any intermixture of love. It is by no means unusual for a woman who does not care a straw for her husband, who may even detest him, to be frantically jealous of his attentions to other women. It is not the outraged love that provokes jealousy; it is the infringement of proprietorship.

Jealousy, in some degree, is natural to man and woman, and all possess it more or less; but in the jealous temperament it assumes a dominant influence. However absurd the grounds that give to jealousy, it is one of the most lethal of the passions, and more often than any other passion prompts to acts of deadly animosity.

THE STREPTOCOCCUS: THE GREATEST MENACE TO MANKIND

Sydney Pern (*Medical Journal of Australia*, November 4, 1922) asserts that we have to consider streptococcus infection in the same light as we do that of syphilis or tuberculosis. It is responsible for seventy per cent. of the sickness in temperate zones. It is capable of involving all tissues of the body which have blood or lymphatic channels entering them. We need to recast our ideas as to the origin of many diseases, such as pernicious anemia, diabetes, disseminated sclerosis, psoriasis, certain forms of epilepsy, and others, looking upon them as invasions of certain tissues by a low grade organism capable of cure by removal of the breeding grounds, provided enough tissue is left to function properly, and he maintains that the streptococcus is capable of filling this role.

SYPHILIS IN THE PREGNANT FEMALE

Belding (*Boston Med. and Surg. Jour.*, May 3, 1923) gives the following summary of his paper:

1. In routine obstetrical examinations compara-

tively few women with positive Wassermann tests show clinical signs of syphilis.

2. Syphilis is an appreciable factor in the causation of fetal deaths, directly or indirectly producing from 30 to 40 per cent.

3. Syphilis has a similar effect upon the mortality of children during the first years of life.

4. The offspring are more seriously affected when syphilis in the mother is clinically evident, and when the reaction is a strong rather than a weak positive.

5. A positive Wassermann test in the absence of clinical findings, especially if repeatedly positive, should not be disregarded.

6. With cholesterolized antigens, positive reactions in pregnant women may be obtained in non-syphilitics.

7. Untreated mothers with histories of clinical syphilis and positive Wassermann tests may produce as high as 60 per cent. of children apparently healthy during the first four years of life.

SELLING "ELIXIRS OF LIFE"

A considerable portion of the Edwin Smith Papyrus written in the seventeenth century before Christ is devoted to discussion of

"The incantation for transforming an old man into a youth of twenty."

The subject was not new then, but can be traced back through further centuries until, like other historical data, it becomes lost in the mazes of mythology and antiquity. During nearly 4,000 years since the early written accounts, there are numerous and more or less connected references in the literature of efforts and methods of restoring sexual youth to the aged. At almost every stage of world development are records of alleged discovery of the true elixir of life and its sale to the public by ubiquitous Ponce de Leons. Many of the vendors profited greatly by these sales, just as they are profiting now by promoting one or another of the numerous and "only sex restorers" offered for sale to a gullible public.

Amulets are still sold as in the days of Babylon. The "Fountain of Youth" wells of Egypt and of the Irish folk tales are always in the land of Bimini just around the corner. Sorcerers still bend over blue flickering braziers and vamp youth back into the aged as they did in the days of Hermippus.

The youth-restoring milk from the blended male and female goats of antiquity has been replaced by an easier but no more certain use of the goats' sexual organs.

Aged flappers, male and female, with the sagging tissues of their necks "hooked up" by surgeons, and their exposed wrinkles ironed out by massage until they look like billikens, insure plenty of propaganda that is utilizable as "news." As "exhibits," they apparently bask in the notoriety they gain from the pathetic exposition of their pictures and senile statements to the public. Their careers are usually short, because the old arteries go on hardening; the creaking joints continue to stiffen, and the brain continues to

soften all the more rapidly because they are unaturally speeded up and not allowed to grow old gracefully.

This remarkable opportunity, of publicity readymade and a mad world trying to defeat God's edict, proves too much for some physicians who themselves fall for the glitter of gold and the tinsel of notoriety. This is the most sickening phase of the whole situation. The attitude and conduct of some physicians in California and elsewhere is casting reflection upon other members of a creditable profession and is causing many people who look to physicians for guidance, to jeopardize their health and squander their funds for a new youth that is no more attainable by the use of monkey glands, goat glands, or what not, than it was for those other silly fools who followed the incantations of the Nile doctors.

Two European "doctors," Steinach and Voronoff, now appear to be jockeying for first place in advance propaganda preparatory to making a fortune out of the health and lives of our citizens. One of them appears to be waiting for his much-advertised monkey farm in Africa to become sufficiently populated with the strong healthy males of the species, while the other is to be accompanied by his own surgeon who will perform the "difficult," "new" operation that is old and is performed several hundred times a month in our country, to prevent propagation of the unfit.

In the meantime and while awaiting the arrival of these elderly "leaders" who apparently have not healed themselves, we are being entertained by the vulgarities of "little Voronoffs" from the ranks of our local profession. Their "press agents" are making them notorious; their disgusting, nauseating practices are damaging the standing of a humanitarian profession, and many silly, often senile, citizens, rich and poor, are being duped by alleged remedies for sexual impotence.

Our medical societies expel members who follow other cults, and they ought to expel advertising alleged "gland specialists." This not only for the honor of their profession, but for the cause of better medicine for all citizens.

Nothing in this editorial is intended to reflect upon the splendid research work going on in many places but which is not put forth prematurely by propagandizing specialists for their own aggrandizement and to the detriment of the public in health.—*Calif. S. J. of M.*

THE MENACE OF "MOONSHINE" WHISKEY

The untoward results of overindulgence in whiskey have usually been ascribed to its alcoholic content, although now and then ill defined "by-products" of fermentation present in the distillate have been charged with a toxicity out of all proportion to the quantities ordinarily present. The indefinite "fusel oil" and furfural were often designated as the pernicious ingredients. In properly made and suitably aged whiskies, such constituents could at most play only a minor part in the intoxication produced. While alcoholism is less prevalent today than it was a few years ago, its at-

tendant and after effects on its victims are more serious. The impression is broadcast that this is due to the "moonshine" liquor which is being distributed. The danger from the presence of methyl alcohol in "moonshine" whiskey is well known. Its presence is explained by the use of denatured alcohol (which may contain methyl alcohol) in the preparation of "moonshine" whiskey. However, the investigations of the federal authorities indicate that ordinarily methyl alcohol is not the pernicious constituent of illicit whiskey, but instead the product has been found often to contain a high proportion of acetaldehyd. The "ranker" the liquor, the higher the aldehyd content. The reason for this has been set forth by government chemists,¹ who have pointed out that the impossibility of fermentation control by the moonshiner results in a considerable oxidation of the ethyl alcohol into acetaldehyd and even acetic acid. Whereas, in an earlier chemical study of whiskeys in this country by Crampton and Tolman,² the average aldehyd content for legitimately made new products was 3.9 parts per hundred thousand, the modern "moonshine" may contain as much as 100 parts. The content of fusel oil is not essentially different in the whiskeys of varied origins.

However, there is considerable agreement on the opinion that the peculiarly harmful effects of new whisky are not due to its fusel oil or its higher content of alcohol. The aldehyd, on the other hand, has long been an object of criticism. As whisky ages there is presumably a polymerization of aldehyds which decreases the toxicity. But "moonshine" cannot wait long to reach its prey. Without care to eliminate the first running of the distillation, with its abundance of acetaldehyd, and the last run or tails, richer in fusel oil, efforts at refinement by fractionation and redistillation are minimized. Little wonder, then, if Doran and Beyer¹ present a serious indictment against the simple pot still and the eagerness for more profits in not discarding heads and tails. These chemists remind us that a large element of the present drinking public, alarmed by the recorded and published effects of drinking methanol mixtures, is disposed to resort to the liquor of seemingly known and recent origin under the impression that, being locally or home made, it is at least safe and pure. The results of many thousands of analyses of this character of liquors show that this may be a fallacy. The evident stupefying or knockout effects of this liquor, in addition to the ethyl alcohol effect, point to the same conclusion.—*Jour. A. M. A.*, Nov. 10, 1923.

CHARITY DESERVED AND UNDESERVED

The days, when charity could be dispensed haphazard and merely because of the desire either to relieve distress or to remove harrowing scenes from one's consciousness, are gone, just as are the days of the

Cherryble brothers whose beneficence was cloaked under a pretended shrewd business reason but was, nevertheless, genuine and spontaneous. Many times, the sort of charity that is bestowed most easily, simply by putting your hands in your pocket and scattering largess, is not always the best thing; in fact, more often it is abused and, certainly, it has created professional beggars who infest the streets even of well policed places like our metropolitan cities and still more the towns of the far east, where they constitute a veritable pest.

With physicians, the question of charity has always been so much a matter of course and it has so entirely been considered an inevitable part of the physician's work to devote a considerable portion of his time and efforts for charity's sake that some men were obliged to set aside one hour every day for gratis consultations (that was before the days of the free dispensaries), and it is told of a certain French physician that, in his ledger, he had a separate page in which a goodly proportion of his services were entered, all of them being charged to "Le Bon Dieu."

More recently, attempts have been made to regulate the charity work that is done by physicians, to limit the services given in dispensaries to people who are really deserving and truly unable to pay in money, and to relieve the physician's private practice of this encroachment upon his time and effort. It will never be possible to eliminate charity from the physician's work entirely. Moreover, it is not desirable that it should be possible. Some of the most satisfactory results of many practitioners have been in charity cases. Some of the greatest and deepest joy of accomplishment has come from charity practice. Nevertheless, the line should be drawn somewhere, even though, in private practice, this drawing the line must be left to the physician.

It is in organized charity, in cases where the applicants for assistance are investigated and card-indexed and approved, where it seems that abuses of charity might be almost eliminated. And, yet, we find it said (in *Better Times*, October, p. 10) that much of the organized charity miscarries and is bestowed upon the undeserving. It has been estimated that \$200,000,000 is devoted every year to American charity. Statistics from 129 American cities, where central financing of philanthropy exists and thus made possible an estimate, show that contributions were received last year from 21,000,000 persons (these cities are exclusive of New York, Boston and Chicago). The average per capita contributed by the inhabitants of the 129 cities amounts to \$1.71.

In order to determine whether all this money went to legitimate properly managed organizations, the National Information Bureau investigated 2,000 social agencies with the result that, in approximately one-half, conditions are tolerated that are definitely unsatisfactory. It is unfortunate that ignorance of, or indifference to, these conditions make possible the continued activities of a large group of undesirable organizations whose appeals flood the mails, whose solicitors stalk their prey (and their commissions) from door

1. Doran, J. M., and Beyer, G. F.: Character of Moonshine Liquor, *Am. J. Pub. Health* 13:831 (Oct.) 1923.

2. Crampton and Tolman: *J. Am. Chem. Soc.* 30:98, 1908.

to door and whose benefits, which benefit only the promoter, crop up for every conceivable need, fancied or real.

Winifred C. Putnam, of the National Information Bureau, who contributes the article in question to *Better Times*, says:

"The fact that fraudulent and undesirable organizations still exist is certainly in part the fault of the contributor who fails to probe into the facts before he gives. When every contributor will cooperate and limit his contributions to those agencies which can prove businesslike management, there will be less waste and an increased stimulus toward maintaining the work on a high scale of efficiency. Organized social work must take the lead in influencing the contributing public to give only to adequately accredited purposes and organizations."—*Clinical Medicine*.

PHYSICIANS' OFFICES AS HEALTH CENTERS

Two years ago the California Medical Association, through its House of Delegates, passed a resolution making every physician's office in the state a "health center." That resolution with explanatory comment, was published in the November, 1922, number of the *California State Journal of Medicine*, and is as follows:

Whereas, It always has been and is the primary purpose of physicians to give trained, scientific, sympathetic service to all of their fellow-citizens who need medical advice and to furnish this service to all alike, regardless of the social or financial standing of the patient, and;

Whereas, It never has been and is not now necessary to interpose any agency not under the direct supervision and control of competent members of the medical profession between the physician and his patient. Co-operation in agencies where such medical supervision and control does not exist often proves detrimental to the interests of both patients and physician, and;

Whereas, In order to re-emphasize these policies and practices to all citizens of California, and to counteract the influences going about the State to the effect that consideration by physicians for those needing medical advice can be obtained only by applying to some non-medical organization, and in order that the public may be fully informed and free to call directly upon the physician of its choice, with the assurance of sympathetic and confidential consideration, therefore, be it

Resolved, By the California Medical Association and representatives of all county and other constituent organizations, in convention assembled, that the office of each of its 4,000 members throughout the State is a "health center" of the kind that means the best medicine and public health advice that physicians can give; this upon the basis that those who can pay in full should do so, those who can pay part should do so, and those who are unable to pay should have the service without cost.

Resolved, That in order to secure special financial consideration, the patient is requested to execute and sign a paper showing his socio-financial status and setting forth briefly the reasons why he must ask for special financial consideration, this being the policy now being followed by honest clinics and welfare organizations.

The following note accompanied the resolution:

"The State society will supply each of its members with appropriate blank forms for this purpose, and will furnish one to any citizen who desires to use it. One of these forms presented to any member of the State society in any part of the State will insure the courtesies and special consideration that his condition warrants and, in addition, he will receive the same sympathetic, confidential, constructive help that is given to the person who is able to pay fully for all that he requires. In carrying out this program, physicians reserve the right, when they think wise, to check up on the accuracy of the applicant's statements in an unobtrusive and sympathetic manner, in exactly the same way as those reports are now being checked up by clinics and other welfare organizations. Members also reserve the right to refer applicants for special consideration to other physicians under the same conditions and for the same reasons that they would refer patients paying regular fees. Any sick person in any part of the State of California who fails, for any reason, to secure adequate medical attention is requested to communicate with the secretary of the State Medical Society, 1016 Balboa Building, San Francisco."

It is the general impression among physicians, and the resolution itself so states, that it is a re-emphasis of the practices and policies of physicians everywhere at all times.

There are two outstanding features of this resolution, the most important being that physicians are ready to render service to any person requiring professional care; that those who are able to pay the physicians' regular fees for this service should do so, those who are able to pay part should do so, and those who are unable to pay any of the fee should have the service just the same; all services, regardless of the status of the patient, to be rendered in the same high grade, confidential, sympathetic manner. The other important feature in the resolution is that it never has been, and is not now, necessary to interpose any agency not under the direct supervision and control of competent members of the medical profession between the physician and his patients.

It has been said by some that, if the spirit of this resolutions were applied, physicians would not be able to give adequate care to all of the ambulatory sick in this State, particularly in certain congested centers. The facts are, that members of the medical profession now take care of all of the ambulatory sick, as well as those who are bedridden and require more time, and, furthermore, the problem in the aggregate is not as large as some people seem to think. If all the sick people in the State of California, of whatever class, kind and condition, were divided up equally among the

seven thousand educated physicians practicing in this States, they would have less than twenty sick people each to look after. If the ambulatory patients were so divided, the doctors' offices of this State would average less than ten visits per office per day.

The primary consideration in the carrying out of this or any other resolution or policy of the medical profession is, that the sick people, regardless of class of sickness, their place of residence or any other consideration, should have adequate medical care. This medical care should be available to all ambulatory patients in physicians' offices and to all others in their homes, hospitals or wherever else they may be. The resolution of the State Association is an effort to make these facilities available in a practical manner.

If the terms of this resolution were carried out in good faith—as they are being carried out by some members of the State Association—there would be little room or little excuse for more elaborate and pretentious clinics. There is in San Francisco County, for instance, one physician to each 500 of population, which is four times as many as necessary to give the public health advice and treat all the sickness that occurs in the population, provided this work could be allocated. Many of these physicians, members of our society, have very small incomes, and many of them, if they would follow the terms of the resolution of their own State Association, might develop a future clientele and make many friends, by the examination of apparently normal individuals for very small fees.

Careful work has shown that among the population of any community periodic examination shows the necessity of a certain amount of professional work in more than three-fourths of those examined. This periodic examination is a very important service to a community; it ought to be done by physicians in their offices, but if physicians are not willing to do it upon the basis of accepting a fee commensurate with what the person is able to pay, than it is perfectly proper that clinics of state or municipal organization undertake the service and employ physicians to do it.

If it is necessary for clinics to do this work for people who are unable to pay more than \$1 for each service, it is likely that the large volume of medical work which is developed by these clinics will be performed by the hospitals and members of the clinic making the original examinations. This is a most important point and ought to have serious consideration by physicians who have spent large sums of money and made many sacrifices to get an education.

Another point that must not be lost sight of in making periodic examination is that the record of the examination should be available to the physician who is going to treat the patient in any illness that may be discovered by the examination, and also to other physicians who may later be called upon to treat the patient.

Between the efforts of various insurance companies, life extension institutes and similar organizations, groups of physicians and individual physicians who are now and long have been engaged in making periodic examinations, and the crop of "periodic examination

clinics" that are sure to develop, the people of San Francisco ought to be well served in their examinations.

PHILADELPHIA ACADEMY OF SURGERY

THE SAMUEL D. GROSS PRIZE,
FIFTEEN HUNDRED DOLLARS

ESSAYS WILL BE RECEIVED IN COMPETITION FOR THE PRIZE
UNTIL JANUARY 1, 1925

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d St., Philadelphia," on or before January 1, 1925.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

WILLIAM J. TAYLOR, M.D.,
JOHN H. JOPSON, M.D.,
EDWARD B. HODGE, M.D.,

Trustees.

Philadelphia, March 15, 1924.

RHUS FOR INCONTINENCE IN CHILDREN

The *Gaz. Med. Belge* quotes Perlis to the effect that rhus aromatica is a certain cure for incontinence in children. He has never known it to fail in his own or others' experience, which includes 156 cases. He prescribes 15 to 60 drops a day fractioned.

PLATOONS RIGHT!

An army corporal, arrested in Athens, and alleged to have married twelve women, pleaded that they were merely platonic affairs. He might almost have called them platoonic.—*Punch* (London).

Original Articles

THE MYSTERIES OF THE ABDOMEN*

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It is with a keen sense of pleasure and gratification that I respond to your flattering invitation to be among you at this time. Whatever of value I may have to contribute in a professional way, is, I am sure, more than offset by the advantage of the feeling of brotherhood and comradeship which gatherings of the Tri-State Medical Association inspire. For after all it is by coming together, even for a short time, in this way that progress is assured, for there is no doubt that the spoken word and the personal contact are much more forceful than volumes of the written word.

In choosing the title, "The Mysteries of the Abdomen," I have not come as a magician who seeks to mystify, but rather as one who aims to throw light into dark places and seeks to dispel mystery and reveal truth. Those of us who have lived three score years or more can remember the time when the abdomen and its contents were forbidden territory to the surgeon. It was opened on rare occasions, in emergencies, and in the post mortem chamber where but little light was shed upon the physiology and pathologic physiology of the organs within. With the dawn of the Listerian era abdominal surgery received its first impetus.

I would bid you then to take a journey with me down the esophagus into the gastric lake, through the pyloric lock into the duodenum, where we may take a side trip through the common duct into the biliary region; thence downward we will sail past the duodeno-jejunal bend into the tortuous channel of the small gut until we come to the head waters of the colon, at the ileo-cecal dam. There we must visit that most famous point along the route, the vermiform appendix, for to miss this would be like touring France and missing Paris. The narrow, rapid running stream now becomes a wide sluggish river and we slowly drift along, rounding the hepatic and splenic bends, until we reach the narrows of the rectum to emerge through the sphincter ani.

It will be impossible to discuss all the sights

we pass in this journey because of lack of time and voice, so I will confine my remarks to the points of greatest interest.

The medical profession has always been cursed by conservatism. We have been loath to give up inherited diagnoses. It is for this reason that we have clung so long to "dyspepsia" and "indigestion" as clinical entities. They belong to the nomenclature of the physician who has not the opportunity of viewing the living pathology of the abdomen at the elbow of the surgeon, and yet today the history cards in the medical dispensaries are filled with the diagnosis of "gastric neurosis," "gastric indigestion" and "gastritis." To me this is not a mystery of the abdomen—it is a mystery of medicine. Properly studied, instead of receiving the usual prescription of nux, soda and gentian at each visit, a considerable number of these patients would be reclassified as chronic appendicitis, chronic gastric or duodenal ulcer, chronic cholecystitis, chronic pancreatitis. Dr. J. Lichty, in a study of 1,500 patients with gastro-intestinal disorders, found that 600 or 40 per cent at operation had disease of the gall bladder or appendix. The mystery deepens when we see even our recent graduates allowing cases of chronic peptic ulcer to go on to perforation. There are undoubtedly cases of functional disturbances of the digestion, the result of improper diet or modes of living, but it should not take months or even years to bring about a restoration of health in these cases when the cause has been removed. The stomach is the megaphone of the entire gastro-intestinal tract. Any disorder of the gall bladder, the pancreas, the bowel or the appendix may reflexly cause pylorospasm so that the major lesion may appear to be in the stomach. The danger of haphazard diagnosis of "dyspepsia" or "indigestion" is apparent.

When a diagnosis of chronic peptic ulcer is made, the question of treatment immediately presents itself. When we consider the length of time it takes to heal a chronic leg ulcer, with the patient absolutely at rest, we cannot wonder that it is well nigh impossible and highly improbable that an ulcer of the stomach or duodenum can be healed by medical treatment, for here anatomic and physiologic rest is impossible to attain. Just as it is frequently necessary to excise the callous base of a leg ulcer, so, too, I believe that the only treatment for a chronic ulcer of the stomach or duodenum is removal when possible.

*Read before the Inter-State Assembly of the Tri-State District Medical Association held at Des Moines, Iowa, October 31, 1923.

In this way not only is the lesion removed, but its dreaded complications of hemorrhage, perforation and carcinomatous degeneration are forestalled. Occasionally excision of the ulcer is impossible because of the surgical difficulties which would be encountered, but even when this is impossible, a gastro-enterostomy will serve three purposes: first, physiologic alkanization of the stomach contents; second, partial physiologic rest of the ulcer, and third, drainage. Fortunately the cases which (as a rule) present difficulties and make surgical removal sometimes impossible, are those in which the ulcer is in the duodenum and nature has decreed that carcinoma of the duodenum is a rare disease.

With the operations for peptic ulcer so standardized that the mortality is reduced to a minimum in the hands of any competent surgeon, it is a mystery to me why the internist too often feels that the treatment of peptic ulcer rightfully falls in his domain. Had the internist felt this three decades ago, before the modern achievements of clinical research, I would have been the first to grant his claim, but the safety which aseptic surgery has brought to our work and the all too frequent disasters which we have seen as the result of prolonged medical treatment have strengthened me as a surgeon in my belief that chronic gastric and duodenal ulcers are surgical diseases. The role of the internist in this condition in the future should be that of a diagnostician and guardian of the after-care of the patient. If I could transplant those of you who are skeptics to my clinic in Philadelphia, you could view any day the mischief which occurs in the upper abdomen from association with bad company and the uselessness of medical treatment, except to satisfy the patient's mind. Scarcely a week passes but that I see ulcers which have perforated into the pancreas, the free peritoneal cavity, or even into the liver; or, if not perforating, form extensive adhesions which distort the motility of the stomach or duodenum. And then you ask us why we do not restore them to perfect health. Let me ask you to question yourselves as to who is the "High Lord Executioner" in these cases.

If you will permit me I would like to say a few words about the appendix before discussing the biliary tract. I am well aware of the fact that I have been called a crank on appendicitis, and if when I am taken to my reward, I am known as nothing else, I shall be satisfied to have as my

epitaph—"He fought a good fight—His life was a continuous war on the vermiform appendix." There has begun recently a crusade against the removal of the chronically diseased appendix. It is true that the papers dealing with this subject have spoken chiefly of the indiscriminate removal of the appendix, but how can anyone be sure of the pathology until mystery is dispelled by the aseptic scalpel. It is well known that a diseased appendix may mimic the symptoms of lesions of many other abdominal viscera. Irritation of the appendix may cause hypertonus of the stomach and spasm of the pylorus, or failure to relax on the part of the pylorus or the ileo-cecal sphincter. Thus it may simulate peptic ulcer. When situated in the pelvis it may inhibit defecation and in the female simulate pelvic disease. I have seen a pelvic appendix cause extreme dysmenorrhea and salpingitis. More frequently than it is given credit for it is the cause of extra-uterine pregnancy. Dilation of the cervical os will avail the patient little if the fimbriated opening of the tube is closed by crippling adhesions. And just as an ureteral stone may be mistaken for acute appendicitis, so too a chronic appendix giving symptoms of increased frequency or inhibition of micturition may be wrongly diagnosed as a lesion of the urinary tract. Sir Humphrey Rolleston has said that, "chronic irritation of the appendix may be responsible for cardiac irregularities." This information has been gained by a wise man standing at the elbow of the surgeon. Frequently when I remove a chronically diseased appendix, the general practitioner will say that he sees little evidence of disease, but the change that can be seen by the naked eye frequently fails to correspond to the prominent symptoms which disappear after its removal. We are only on the threshold of our knowledge as to the complementary actions of one organ upon another—and when I am accused of removing normal appendices, my invariable answer is that an empty house is better than a questionable or perhaps a bad tenant. (Those of you who remove tonsils and are similarly accused, please take notice.)

Every case of appendicitis which is allowed to go on to suppuration is an indictment of the physician. Perhaps your general practitioners here are better trained, but in Philadelphia, a medical center of the world, the gangrenous and perforated appendix are frequent sights in every hospital. Murphy, in 1915, reported the average

hospital mortality of appendicitis cases of all classes, "as just a little over ten per cent.," and he appended to this the question, "is this not a solar plexus blow to our conceit?" So, if you think it is time to stop talking about appendicitis you must realize that what we need is more talking about it, until the surgeon of the future in speaking on perforation and gangrene will have to go to the Pathological Museum to find his specimens. There is no legitimate excuse for a high mortality in appendicitis. The majority of patients do not die because they have refused operation, but because of procrastination on the part of the attending physician. The initial symptoms are usually clear cut, but they are no index as to the subsequent course or complications. Therefore, I say, early diagnosis and early operation mean early cure. There is more reason why we should scorn the family doctor who, unmindful of responsibility and forgetful of his training, defers operative treatment until too late, than the chiropractor or osteopath who in his ignorance fails to diagnose these cases. On several occasions I have taken it upon myself to chastise such recalcitrant members of the profession and they usually retort, "if you are a good surgeon, you will get them well." How can a physician who claims to be conscientious impose this unnecessary burden upon the surgeon, to say nothing of the risk to the patient?

It is true that an acute appendicitis may subside without operation but recently in compiling the end-results of five hundred cases of chronic appendicitis operated upon, Dr. Ravdin and myself found that 145 were operated upon during an acute exacerbation of the disease. Many of these had gone on to perforation and peritonitis. Of those operated upon during the quiescent period there was one death (0.27 per cent.), while of the 145 operated on during an acute exacerbation there were four deaths (2.7 per cent.). Who would knowingly dare to impose the risk of a mortality ten times as great as necessary upon his patient?

Experience has proved that one attack predisposes to another, for of the appendix it may be said, "Once diseased, always diseased," and any attack may prove fatal, and yet how often the patient having recovered from an attack is advised to defer operation until another attack. None of you would carry around a stick of dynamite, but this is what you allow your patients to

do when you allow them to carry around a diseased appendix.

Not only is the sufferer from appendicitis subjected to hazards of an acute abdominal catastrophe, but through lymphatic and circulatory connections he invites gastric, duodenal, biliary and pancreatic disease. When I first stated that biliary disease was often the result of a previous appendicitis and that chronic pancreatitis was a sequel of biliary disease, I was ridiculed. Sweet, Graham, Pfeiffer and myself have now shown the evidence for this statement. Graham's researches which prove that hepatitis is a frequent precursor of cholecystitis are among the most brilliant contributions to the surgery of the biliary tract. There are several apparent mysteries in this region which need clarification. The first is that chronic cholecystitis may reflexly cause the same dyspeptic symptoms that are associated with ulcer and appendicitis. This may be mechanical, reflex, toxic or infective, we do not know. It may be one or another or a combination of them. But the greatest mystery of the gall bladder is the general attitude toward the presence of stones. Patients have been trained to believe that where there are no stones there is no disease and the practitioner does not ask, "is the gall bladder wall abnormal" or "is the bile pathologic," but his invariable question is, "how many stones are present?" A chronically diseased gall bladder without stones may give the same symptom complex as one with stones. The stones are a by-product, not a cause of the diseased mucous membrane. There is no necessity of allowing a roentgenogram or the all too uncertain evidence of duodenal drainage, to be the indication for operative interference. Chronic pancreatitis results from chronic cholecystitis and the resulting pericholecystic adhesions embarrass the movements of the stomach and duodenum. Chronic cholecystitis, as Riesman, Babcock and others have pointed out, is a frequent cause of myocarditis, and toxemia from absorption of the contents of a diseased gall bladder is of common occurrence. Chronic colitis, diabetes, pyelitis and pyelo-nephritis may also be due to an extension of the infection. I quote this from no less a medical authority than Sir Humphrey Rolleston. These then are the legacies of neglected cholecystitis. They are no longer mysteries but they are the realities of clinical research.

A word as to jaundice. It occasionally accompanies cholecystitis, but it is more often the expression of a stone in the common duct or of a chronic pancreatitis. Its presence signifies more danger and necessitates more extensive surgical procedures since the common duct must be explored and drained and, added to the risk of more extensive surgery, is the danger of hemorrhage.

In many hundreds of operations upon jaundiced patients I have come to recognize two varieties of jaundice; the painful and the painless. The causes of painful jaundice are: (1) stone in the common duct and stone in the cystic duct compressing the common duct at the junction of the two ducts. (2) Inflammatory obstruction as in choledochitis. (3) Cholecystitis with cholangitis. (4) Sub-acute pancreatitis involving the head of the pancreas and associated with inflammation of the biliary passages. This last may produce a syndrome very similar to that of a common duct stone. In fact, it may so closely simulate it that the diagnosis can only be made by operation. The causes of painless jaundice are: (1) Simple catarrh of the ducts (infectious jaundice); (2) Carcinoma of the head of the pancreas, the biliary passages or the gall bladder; (3) Chronic pancreatitis or pancreatic lymphangitis; (4) Obstruction of the distal end of the common duct by exudate of a duodenal ulcer; (5) Stricture of the orifice of the papilla of Vater following a choledochitis, which can only be corrected by gradual dilatation through an opening in the common duct; (6) the splenomegalies, ictero-anemia and hypertrophic cirrhosis of the liver, and lastly, toxins, such as arsenophamine, phosphorus and nervous shock.

The cause of jaundice after operation upon the biliary passages is often a mystery and can only be definitely determined by secondary operation. Those of us who are constantly delving into the mysteries of the upper right quadrant know this only too well. The most common cause is the presence of a stone or stones left behind at the first operation; the presence of numerous tiny stones, often not larger than grains of sand, filling the common duct; stricture of the common duct, the result of injury to the duct at the time of a previous cholecystectomy, or stricture of the common duct which has been drained, or stricture following an inflammation of the duct.

Many of the mysteries can be cleared up only

by operation. They are frequently the result of dilly-dallying with the original pathology. I hope I have made it clear to you that the pathology of the liver and its passages has few limitations. Does it not, therefore, behoove us to be on the alert when confronted with these cases? Do these mysteries not increase our responsibilities? These are entanglements to be avoided by prevention, if possible.

Chronic disease of the pancreas is the result of bad company. The lesion would be as rare as acute pancreatitis were it not for the neglected treatment of chronic cholecystitis. Especially is it associated with calculous cholecystitis, although the etiologic factor is probably an extension of infection through the lymphatics rather than an obstruction by stone at the ampulla or an ascending infection through the pancreatic duct, as was formerly believed. Since the pancreas is so closely associated with the other organs of the upper abdomen, chronic disease gives no symptoms that we can now isolate as originating in it, but the condition is found at operation. The occasional disastrous results after operation for long-standing gall bladder disease may be due, as Whipple has shown, to pancreatic asthenia.

Acute pancreatitis, also often associated with biliary disease, is one of the most serious of the acute abdominal catastrophies and is too often wrongly diagnosed. Here the delay of an hour or two may cost the patient's life, but fortunately when it is wrongly diagnosed, it is apt to be confused with conditions also requiring immediate surgical interference, such as perforated ulcer, or acute intestinal obstruction, so that delay is not usual.

Just as the surgeon has learned to extend the field of his endeavors, so too, he must learn to restrict them. The day is past when oophorectomy is considered a cure-all. We have gone through the era of nephropexy, cholepexy and ileo-sigmoidostomy. Lane's excision of the colon which only a few years ago was heralded as a benefaction is now relegated to the surgical museum. The colon subserves a useful, physiologic function and is not to be lightly considered. It is true that cecal stasis from inhibition of peristalsis or from entero-spasm, may be due to chronic appendicitis. This may be remedied by appendectomy, but the type of colonic stasis usually encountered is more frequently due to anatomical defects. This type of stasis as a rule,

resists surgical treatment, and the patient once operated upon comes back again and again for further surgical treatment. Just as the medical man must know his limitations so, too, the surgeon must realize his.

Only too frequently patients suffering from malignant growths in the hepatic or splenic flexures are treated for a long period for chronic constipation. Rarely are they subjected to x-ray examination until the lesion is palpable through the abdominal wall. Unfortunately, it is my experience that even the most expert x-ray artist does not always demonstrate a growth in the colon. He may, however, be able to demonstrate an enlargement of the colon proximal to the growth which should be very suggestive to the surgeon in his differential diagnosis. As a rule the patient has been under the physician's care for a long period and the complaint of pain should have been a warning that the lesion was not that of every day constipation. Cure is impossible when the diagnosis is made from the history of diarrhea, fetid discharge and hemorrhage. Another of the many mysteries.

Before we finish our journey I would like to say a few words about malignancy of the rectum and recto-sigmoid. Were it not for the fact that metastasis is late, operative results in this condition would be much worse than they are at present, for the surgeon rarely sees it at an early stage. Only too frequently these cases are diagnosed as hemorrhoids, the mistake having been made because the physician was too gentle to make a thorough digital or proctoscopic examination. Here is a region where diagnosis could be made early by both touch and sight, but hemorrhage and alternating diarrhea and constipation seem to be necessary before the lesion is suspected. I believe in the two-stage operation. A colostomy gives the patient an opportunity to get rid of his toxins and at the same time allows for a careful inspection for metastasis. I do not believe in the operations which attempt to preserve the sphincter and in low rectal growths, for the same principles which govern the treatment of carcinoma elsewhere, that is, wide excision, are equally applicable here.

I hope in my travels today I have pointed out a few of the conditions which have baffled medical science in the past and are at times mysteries today. I come to you with a plea that if our services to humanity are to increase in their

standards we must realize that medicine and surgery still have definite limitations. Neither of them is an exact science and realignments are constantly necessary. The best means of abolishing or assuaging the sufferings of mankind are to stop temporizing with medical procedures in surgical conditions, for procrastination and indifference have been the means of losing lives which might otherwise have been saved.

CANCER OF THE STOMACH.*

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Crile, in his mechanistic theory of peace and war, has described the various modes of death as the avenues through which the soldier marches into oblivion. The *magenstrasse* may be described as the particular avenue through which great numbers in the days of peace march onward to disability and death. This great highway is the much traveled route described first by Waldeyer, leading from the cardia to the duodenum. It is formed by the lesser curvature of the stomach and a fold of mucosa which when contracted forms a canal continuous with the esophagus. It is thus seen that with the *magenstrasse* as the connecting link, a tubular canal is formed connecting the esophagus with the intestines. Since the *magenstrasse* or, as it has been so aptly paraphrased, "main street," is the path which transmits ingested substances directly from the esophagus to the duodenum, it follows that anything which irritates or damages the stomach wall will first come in contact with this area. The frequency of occurrence of ulcer or carcinoma in the region of the pylorus and along the lesser curvature can readily be explained upon the basis of the greater trauma and irritation to which this area is subjected. The greater curvature and cardiac end of the stomach have been likened to the cecum because of their pouch-like shape and the resulting stasis of their contents.

Anatomically and technically the pylorus and lesser curvature may be removed and the continuity of the gastro-intestinal tract restored by one of the methods of Billroth or the Polya-Balfour method. The *magenstrasse* lies within this area, its direction coinciding with that of

*Read before Section on Public Health and Hygiene, Illinois State Medical Society, Decatur, May, 1923.

the long axis of the stomach. Therefore that portion of the stomach which is most commonly the site of malignant disease or ulcer lends itself most readily to removal.

Katsch und von Friedrich investigated the *magenstrasse*, or sulcus gastricus, which name Waldeyer originally applied to the development of the mucous fold in the stomach wall favoring the passage of food along the lesser curvature directly to the pyloric opening. They found that the lesser curvature formed the shortest distance to the pylorus, favoring the passage of stomach contents, especially fluids, along the lesser curvature. The term sulcus gastricus has come to signify the preference of foods and fluids for this route along the lesser curvature, whether due to the mucous fold, the vertical position of the stomach or the length of route. It was noticed in dogs with duodenal fistulae that the fluid foods came through rapidly while the solid foods tended to remain back in the stomach. It was further observed that in horses as much as fifteen liters of water may pass through the horse's stomach while more solid foods remain behind. Furthermore, it is common observation that the drinking powers of beer users are out of all proportion to the capacity of the stomach, proving that at least some of the ingested food or fluid may pass directly along the *magenstrasse* into the bowel.

Bauer, among others, claims that this route along the lesser curvature is preferred also by solid foods, and uses this supposition in the elaboration of his theory of the causation of gastric ulcer by the extra-exposure to mechanical insults of this part of the stomach.

He reports, from the study of thirty-five ulcers of the stomach secured at autopsy, of which six were multiple, that the ulcers in all cases were limited to the area included and for a short distance on each side of the *magenstrasse*, with a tendency to extend more to the posterior wall. The author has used this observation to construct what he designates the "Lokalisations-gesetz," or localization ruling; viz., that all typical round ulcers have their seats in the confines of the *magenstrasse* with a certain tendency to involve the posterior wall of this area. This, he explains, is due to the tendency of the foods taken into the stomach to follow this course first and then to spread from the *magenstrasse* to the remainder of the stomach, thus

exposing this area to the first shock of hot and irritating foods. Further, the lessened mobility of this area renders the contraction of the neighboring mucosa less easily able to close off a defect from the rest of the stomach, with its irritating secretions.

Kirschner (M. N.) ("Zur Exzision der Magenstrasse"), criticizes the present tendency to place the excision of the culcus gastricus, as recommended by Schmieden, on the plane of the regular therapeutic measures and not as an heroic measure to be resorted to because a cure cannot be attained by lesser measures.

This criticism of the surgical intervention for stomach lesions is the age-old feud between the internist and the surgeon. Dr. William Mayo has so well stated that no case of carcinoma of the stomach has ever been cured by any other than surgical means. It is, therefore, the early diagnosis which makes the difference between success and failure. Pathology teaches that many carcinomas are ingrafted upon chronic gastric ulcers.

W. C. MacCarthy, of Rochester, Minnesota (*Journal A. M. A.*, 1922, lxxix, 1928), says that from an experience of more than 1,400 gastric specimens the association between gastric ulcer and cancer is so frequent that if he had a chronic gastric ulcer he should always consider the possibility of cancer being present; and he knows of no clinical or laboratory methods by which the differential clinical diagnosis can be made. Most chronic gastric ulcers with a diameter greater than 2.5 cm. are cancerous.

Askanazy (M.) (Origin of Gastric Cancers from Congenital Epithelial Rests in the Gastric Wall. *Deut. Med. Wchnschr.*, 1923, xlix, 5th January), says that facts exist sufficient to justify the suspicion that certain gastric cancers which involve the mucosa have an epithelial origin. That cancer can develop by virtue of foreign embryonic inclusions in the stomach situated in the gastric walls. The case on which the view is based is that of a woman of 44 who, after suffering for many years with symptoms of gastric neuritis, was finally operated on and a cancerous tumor found which originated apparently from a congenital epithelial germ in the gastric wall. Askanazy also observed a similar case in a female child aged 2 months. The occurrence of epithelial rests in the gastric wall

is not rare and Askanazy knows of eight such cases.

Mayo (C. H.), (*Jour. A. M. A.*, 1921, lxxvii, 177), says that clinical observations show that approximately 20 per cent. or more of stomach cancers are confined to the stomach until the death of the patient.

At the Mayo Clinic during 1919-1920 a diagnosis of cancer was made in 1,529 cases. Fifty-four per cent. were inoperable; in 126 exploratory operation only could be done; in 74 gastro-enterostomy was done; and in 223 a radical resection operation.

Mayo argues for the ulcer-before-cancer etiology but says that "it will take years of observation to estimate fairly accurately the percentage of cancers which have occurred on ulcer."

Carcinoma and ulcer have been found coincidentally upon the gastric mucosa, the ulcer contributing the conflicting findings in the test meal, of hyperchlorhydria while the deadly carcinoma develops.

Under proper management the exploratory laparotomy for cases of intractable gastric ulcer is without hazard to the patient. The danger of procrastination is evident. Those cases of gastric carcinoma which may be positively diagnosed before operation are almost always too far advanced for the radical removal of the cancerous mass. In forty-six cases of cancer of the stomach operated upon at Cook County Hospital in the last six months in only one case was it possible for me to do a radical operation. In the other cases palliative operations were done but the benefit afforded by a simple drainage operation is only temporary and in no sense curative.

In all of these forty-six cases the diagnosis was positive before operation. The classic history of rapidly failing strength and weight, anorexia with gastric pain made worse by the ingestion of food, vomiting, cachexia and the presence of a tumor in the epigastrium were recorded with machine-like regularity in the whole forty-six cases. That is to say, in every case a positive diagnosis could be made from the clinical history and physical examination without the aid of the clinical or x-ray laboratories.

It is admitted that this percentage is extreme and it is probably due to the fact that a charity hospital only gets the sufferer when he is unable to work any longer.

The present practice of some medical men of making a positive diagnosis of inoperable carcinoma and to complacently consign the patient to an early death without the benefit of an exploratory operation cannot be too strongly condemned.

An editorial from the *American Journal of Medical Science* (1921, clxii 863), says: "An analysis of 182 carefully studied cases of cancer of the stomach showed that a history suggestive of a previous ulcer was obtained in only 17 per cent. Epigastric pain referred to the back occurred in 29 per cent. of the pyloric cancers; and of those with pain referred to the back 80 per cent. involved the pylorus. The age incidence for the beginning of "ulcer" symptoms in the ulcer-before-cancer cases had its apex two decades later than did a series of 79 pure ulcer cases. This suggests either that ulcers first giving rise to symptoms in middle life have a far greater likelihood of becoming malignant than do ulcers generally, or that the ulcer-before-cancer cases are really malignant from the beginning. Either of these considerations justifies and indicates prompt and radical surgical treatment of all patients first suggesting symptoms suggestive of ulcer after 40 years of age."

Willson (H. S.), (*Minnesota Med.*, 1922, V. 1621), says that there is no possibility at the present time of making an early diagnosis of cancer of the stomach; it is nearly always far advanced before giving symptoms sufficient to warrant seeking medical advice. In a large majority of stomach cases by the time the symptoms appear the different elements that go to make a diagnosis in order of their relative value are: Röntgen-ray; history; physical examination; gastric analysis; stool analysis, other laboratory findings. The röntgen-ray in primary carcinoma shows a filling defect in the contour of the stomach wall which is diametrically opposed to the niche of an ulcer.

The röntgen-ray cannot determine when an ulcer is undergoing malignant degeneration. In the later stages of carcinoma developing from an ulcer base the findings are the same as in primary carcinoma.

Moppert (G. G.), (*Schweiz. Med. Wochm.*, 1921, li 202), in regard to Einhorn's thread method in gastric cancer, concludes from a study of 44 men and 54 women that no reliance can be placed on the findings from this method.

The distance from the teeth to pylorus may vary 20 or even 30 cm. in different persons and vary even at times in the same person. The method may suggest an ulceration when there is none; or it may deny the existence of a cancer when malignant disease really exists. In 56 normal persons the thread showed the stain in 41 per cent; in 22 cases of gastric ulcer the thread was blood stained in only 36 per cent.

E. Frieker (Schweiz, Mediz, Wehnschr, 1921, li. 174) found occult blood in 170 of his 176 cases of gastric cancer and it was probably present also in the negative cases. Cancer was verified on operation.

Hartman (H. R.) (Amer. Jour. Med. Sc., 1922, clxiii 186), has analyzed 551 cases of stomach cancer with reference to acidity. He finds that in 51.85 per cent of the pyloric lesions achlorhydria was present. In the cardiac portion the achlorhydria was 61.54 per cent. Location of the lesion does not apparently affect the degree of acidity. Only 53.72 per cent of the patients had achlorhydria; 15.78 per cent had free hydrochloric acid in small amount. In 17.42 per cent the gastric acidity was normal and 4.58 per cent had hyper-acidity. Thus more than one case out of 5 were normal or hyperacid.

Weinberg, Deut. Med. Wehnschr. 1921, xlvii 826) recalls the fact that Moewas often diagnosed carcinoma of the stomach from blood findings alone.

Comparing conditions in carcinoma and achylia gastrica Weinberg found in 68 cases of carcinoma that leucocytes were normal in 26; increased in 27; diminished in 15; in 67 cases of achylia gastrica leucocytes were normal in 37; increased in 7, and diminished in 23. That is, in achylia there were only seven cases of leucocytes as compared with twenty-seven in carcinoma. Leucocytosis must, therefore, be regarded as indicating cancer rather than achylia.

Ramond (F.) and Zizine (P.) (Search for Autolytic Products Applied to the Early Diagnosis of Gastric Cancer, Bull. el. mén. Soc. méd. d. hop. de Par. 1923, xlvii 196), report that histological examination of cancerous tissue of the stomach and other organs shows that the neoplastic cell has only an ephemeral vitality and quickly undergoes autolytic disintegration. It is therefore natural to suppose that the ordinary products of autolytic fermentation should

be found in the blood and urine. Several investigations have shown that such products are principally amines.

The authors give tabular statements in one of which the results are those obtained from non-cancerous patients, and in the other from cancerous patients. All the nitrogenous substances are seen to be augmented in the blood and in the urine in the cancer cases. There is an exaggeration of the nitrogen metabolism due especially, the authors think, to autolytic processes. This process is not one that is special to cancer since it occurs also with rapid emaciation, with different acidoses, etc.; but whenever cancer is suspected (for instance, in gastric cancer), it will be easy to eliminate the other conditions and if, by the analysis of the blood and urine, the existence of high amine acids are found cancer can be affirmed. Thus the authors were able to diagnosis gastric cancer in three uncertain cases by the presence of amine substances in the blood and urine above the habitual proportions, which findings was confirmed on operations. It seems therefore that the search for autolytic products permits an early diagnosis of cancer.

Moffert (G. G.) (Rev. méd. de la Suisse rom. 1922, xlii 343) says that massive hemorrhage is exceptional in gastric cancer (10 per cent); occult hemorrhage is the rule (85 per cent). Eighty-three per cent of cases of cancer which have never shown massive hemorrhages show blood in the stools.

The following case is one of many which bear out this statement regarding exploratory operation. A patient in a medical ward in Cook County Hospital had been diagnosed as inoperable carcinoma of the bowel. For more than three months she had been in the ward resignedly awaiting the end. Suddenly she was seized with the symptoms of acute intestinal obstruction. She was transferred to the surgical service in an almost moribund condition with the diagnosis of acute intestinal obstruction and generalized carcinomatosis of the abdomen. Under local anesthesia the abdomen was opened and a large multilocular ovarian cyst with a twisted pedicle removed. The patient made a complete recovery. With such experiences as the above it is not to be wondered that the surgeon feels that even the most experienced clinician may be deceived and that he has no

right to withhold the outside chance of the exploratory laparotomy.

Even with the abdomen open and the pathology revealed the tense moment when the operator must make his decision to close the wound and forfeit every chance or attempt the removal of the malignant mass is fraught with heavy responsibility to the operator.

In the advanced cases the decision is easy to make but there must always remain a considerable number of borderline cases where the final decision must rest with the experience and judgment of the operator. The co-operation of internist and pathologist is always desirable in these borderline cases. As experience grows the operator accepts more cases for radical operation in cancer of the stomach, for surgery still holds out the only hope of cure.

One is frequently asked why the radical operation should be undertaken when statistics show a relatively high mortality and a small percentage of permanent cures.

In those cases who survive the operation there is an immediate improvement of all symptoms and if there is a recurrence it is frequently metastatic in the large parenchymatous organs.

Mau (C.), (Deut. Zeitschr. f. Chir. 1921, clxv 216), has resected both stomach and colon in eighteen cases of gastric cancer and reviews eighty-three such cases in literature. Permanent recovery is known in 9 per cent, which is equivalent to 29 per cent of those who survived the operation and in whom the outcome is known. Even as palliative the result is better than with gastro-enterostomy.

Vinci (G. C.), (Policlin. 1921. xxviii 1683), says that very good results have been obtained in gastric cancer cases from gastro-enterostomy plus exclusion of the pylorus, when gastrectomy is contraindicated. In three severe cases the patients lived for fourteen months to five-and-a-half years following this operation.

Having in mind the fact that the majority of benign and malignant lesions of the stomach are confined to the *magenstrasse*, and the further fact that the *magenstrasse* for practically its whole extent is removable by surgical means, it is the duty of the diagnostician to subject those cases to exploratory operation and radical removal of any suspicious growth. It has been shown further that the bismuth meal spreads itself more or less evenly over the stomach

mucosa and does not tend to follow the typical course of an ingested meal. Only exceptionally does the bismuth meal follow the lesser curvature.

It is further a striking fact that the greatest concentration of acid takes place in the pylorus and along the *magenstrasse*. It is known that the irritating effect of the hydrochloric acid of the gastric juice upon an ulcer is one of the factors which prevents the healing of the ulcer. The influence of the acid erosion upon the development of carcinoma has been strikingly demonstrated by the observations in the Mayo Clinic, which shows that no case of oral carcinoma had been observed in a person in whom the normal alkaline reaction of the mouth has been preserved. This normal reaction is changed to acid in the presence of pyorrhea and other oral lesions consequent upon infection and prolonged mild irritation. Proceeding down the esophagus carcinoma is rare until the stomach is reached, where it is common. It is most common in that part of the stomach in which there is the greatest concentration of acid; namely, along the *magenstrasse* and pylorus. Going over abruptly into the alkaline duodenum, no case of carcinoma has ever been found in the duodenum, at the Mayo Clinic, with the exception of one and that was doubtful. Proceeding down the intestinal tract the incidence of carcinoma becomes more frequent until the sigmoid is reached, where it is relatively common, and it finds its greatest frequency in the rectum where the reaction of the contents of the bowel is acid.

In conclusion, therefore, explanatory laparotomy in all cases of intractable pain located in the stomach should be insisted upon, as this offers the only possible chance of saving a case of carcinoma of the stomach.

25 East Washington Street.

DISCUSSION

DR. DON DEAL, Springfield, Ill.: I am unable to add anything to Dr. Dyas' paper, and wish to congratulate him upon his splendid essay. It is certainly most complete and has given us a lot of new ideas. Here is one place where there is rarely a discussion between the deep therapist and the surgeon as to the best method of treatment.

DR. J. T. McDAVID, Decatur: Sometimes we all go wrong on our diagnosis in tumors of the stomach. Even the laboratories sometimes make errors or else nature sometimes performs miracles.

In 1912 I took out a piece of a tumor on the pylorus

and sent it to a laboratory and the report came back, carcinoma, yet that patient is living and in good health today.

I did not remove the mass, because I did not think she would live through the operation. I did not think she would live anyway, but to give her relief from her vomiting I did a posterior gasro-enterostomy.

The results of the operative work on the stomach is different, in my practice, from operative work on the lungs.

I did not like to discuss the paper this morning on the abcess of the lung because my death rate in that kind of work is too high; but in the stomach the opposite is true. This paper has been wonderfully well prepared and I have enjoyed listening to the Doctor very much.

THE ROLE OF RADIUM IN BENIGN AND MALIGNANT TUMORS OF THE UTERUS.

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Cleveland Clinic

CLEVELAND, OHIO

Considerable confusion still exists in the minds of many physicians as to the choice of treatment for uterine tumors, both malignant and benign. Should radiation or surgery be used, or both? The general practitioner generally sees the case first. If he refers the patient to a radium therapist who is convinced that his is the method of greatest value, she will probably be treated with radium. If he refers her to a surgeon who believes that surgery is the method of choice she will probably be operated upon. It follows that if the treatment—whether surgery or radiation is not successful, a goodly share of the responsibility must be borne by the family physician. It is, therefore, urgent that every effort be made to formulate certain definite indications for the choice of the method to be used in the treatment of a given pathological condition of the uterus. One of the best ways to reach a definite conclusion is the study of properly collected and properly analysed statistics of the results of each method of treatment.

CARCINOMA OF CERVIX

In considering the relative values of surgery and of radiation in the treatment of carcinoma of the cervix, it is essential to know first what has been accomplished by surgery in the past, and second what is now being accomplished with radium. If radium is to supplant surgery it must show that it gives better results.

An analysis of the results of the surgical treatment of cervical cancer shows that out of each one hundred cases which consult a surgeon the operability will not exceed 40 per cent. Among these 40 cases an operative mortality of 10 per cent. is not excessive. Among the remaining 36 cases the average number of reported cures—25 per cent.—shows that 9 cases will be cured.



Fig. 1. Technique of Radium Application in Carcinoma of the Cervix.

That is, the surgeon may expect 9 per cent. of final cures from among all cases of carcinoma of the cervix that consult him. It follows that the radium therapist must be able to cure more than 9 cases out of a hundred before he can take carcinoma of the cervix out of the field of surgery.

Our own experience thus far has been quite encouraging. At first we treated only the inoperable cases with radium. Then gradually we included the borderline cases and at the

present time in the Cleveland Clinic all cases of carcinoma of the cervix are being treated exclusively with radium and x-ray. The cases which have been subjected to radium therapy

TABLE 1.
End Results of the Surgical Treatment of Carcinoma of the Cervix in Relation to the Cases which Present Themselves for Operation and Treatment.

Consecutive cases presenting themselves for examination...	100
Operability	40
Operative mortality	4
Surviving cases	36
Cures—5 years	9

during the past four years can be roughly grouped as follows:

1. Inoperable cases treated with radium alone.
2. Cases subjected to treatment with both surgery and radium.
3. Cases treated with radium and deep x-ray therapy alone.

We have adopted the following arbitrary classification of our cases:
Class 1. Cases in which the disease is limited to the cervix.

Class 2. Cases in which there is either an extension on the vaginal wall or a thickening of the broad ligament.

Class 3. Cases in which there is both an involvement of vaginal wall and a thickening of the broad ligament.

Class 4. Long standing cases in which there is an extensive involvement in the pelvis.

In the last cited group no attempt is made to cure, but the bleeding or discharge may be relieved by small doses of radium.

Among the inoperable cases treated with radium alone, 9 cases have been under treatment for more than three years. Among these, 4 cases

TABLE 2.
Cases of Carcinoma of Cervix Treated with Radium Alone for More than Three Years

No.	Age	Dur. Symp.	Type	Diag.	Living	Dead
1	35	6 mo.	II	Sq. Ca.	43 mo.	16 mo.
2	45	12 mo.	III	Sq. Ca.		
3	63	6 mo.	II	Sq. Ca.	41 mo.	
4	38		III	Sq. Ca.		n.h.
5	42	12 mo.	II	Sq. Ca.	37 mo.	
6	45	4 mo.	III	Sq. Ca.		8 mo.
7	50	12 mo.	II	Sq. Ca.	36 mo.	
8	42	2 mo.	II	Sq. Ca.		7 mo.
9	45	6 mo.	III	Sq. Ca.		8 mo.

—45 per cent.—are living and apparently well.
In the second group—those treated by surgery and radium combined—very bad results were secured and this combined treatment has been discarded. (Table 3 here.)

In the third group, in the treatment of which both radium and deep x-ray therapy have been used, the best primary results have been secured, although since this combined method of treatment has been in use for only one year, we have no available statistics upon which to base a discussion of final results—three or five year “cures.”

TABLE 3.
Cases of Carcinoma of Cervix Treated with Both Surgery and Radium

No.	Age	Location	Operation	Comp.	Duration of Life
1	28	Cervix	P. C. and T. H.	V. V. Fist.	11 mo.
2	31	Cervix	P. H.	None	15 mo.
3	29	Cervix	P. C. and T. H.	Faecal Fist. Abd.	8 mo.
4	60	Cervix	T. H.	None	4 mo. (living)
5	57	Uterus Vagina	Supra. vag. H.	None	13 mo.
6	67	Uterus	Attempted V. H.	V. V. Fist.	4 mo.
					Av. life 10½ mo.

*P. C. Signifies Percy Cautery; T. H.—Total Hysterectomy; and V. H.—Vaginal Hysterectomy.

Methods of treatment: For the first treatment nitrous-oxid anesthesia is given to all cases. The method of application of radium is individualized for it is impossible to treat all cases alike. I think, however, that needles should be inserted whenever possible because by their use a more homogeneous radiation is secured.

It has been our custom to place 75 mg. in the cervix screened with 1½ mm. silver and 1 mm. of brass, 50 mg. against the cervix and 75 mg. (in 9 needles) inserted at various points in the cervix, the treatment being continued for periods varying from 12 to 16 hours. (Fig. 1). The vagina is packed tightly with gauze and a catheter is placed in the bladder to prevent distension and a resultant too close approximation to the radium which might cause a fistula. In from three to four weeks the patient is treated again by placing 125 mg. screened with 1 mm. of brass against the cervix for from 12 to 15 hours. Generally this can be done without anesthesia with the patient in the knee chest position.

Thus, each case receives a total dosage varying from 4000 to 4800 mg. hours. After the second treatment the patient is discharged but reports for observation three months later.

We have not seen a single fistula, either rectal or vesical, in the cases treated with radiation alone. They have occurred only in the cases treated with both surgery and radium. Proctitis with a slight stricture has occurred in only one case.

An acute hydronephrosis was seen in one case four months after the treatment was begun, but in this case there was a recurrence of the growth which involved the lower end of the ureter.

It should be borne in mind in discussing the relative merits of surgery and of radiation in the treatment of carcinoma of the cervix that the basis of comparison must be the morbidity and the end-results—three and five year “cures”—as immediate mortality in these cases pertains only to surgery. No immediate mortality can be attributed to radium therapy. We are satisfied with the value of radium in inoperable cases of carcinoma of the cervix; we believe that accumulating evidence will give equally positive evidence of its value in early cases, as compared with surgery.

CARCINOMA OF THE FUNDUS

On account of the excellent results of the surgical treatment of carcinoma of the fundus up to the present time I have not advocated radiation. This fact suggests that further investigation is in these cases. During the past year, however, in three cases I have seen a recurrence in the upper end of the vagina six months after a complete hysterectomy and all three of these patients died less than one year after operation. demanded—perhaps a trial of radiation in cases of carcinoma of the fundus, in which there may be some contra-indication to operation, such as old age, or cardiovascular disease, or objection to operation on the part of the patient.

BENIGN TUMORS OF THE UTERUS

To my mind it is more difficult to decide whether a fibroid tumor should be radiated or treated surgically than it is to determine the proper procedure in a case of cancer of the cervix, and unless scrupulous care is taken in the selection of cases for radiation a great many

failures will result from the use of radium and x-ray therapy.

In the majority of cases surgical treatment has yielded good results—the mortality is low, the convalescence is usually quite rapid. It becomes necessary to consider very carefully whether or not any cases can be more beneficially treated by radiation. Are there any cases in which radiation is definitely contra-indicated? Are there others in which it is as definitely preferred?

In our judgment radiation is definitely contra-indicated under the following conditions which are related to the size of the tumor and its location, the age of the patient and the presence of pain or discharge.

1. *Size of the tumor and its location:* Radium is contra-indicated in any case in which the tumor is palpable above the symphysis. A large enough dose of radium to reduce the size of this tumor would cause destructive local effects and therefore radium would have to be supplemented by x-ray therapy. I believe that in such a case the patient will be better off without radiation. If a fibroid is sub-peritoneal or sub-mucosal, or if it is pedunculated, radiation is contra-indicated because it cannot produce a cure. Accuracy of diagnosis, therefore, is of the utmost importance

2. *Age of the patient:* In a woman in the child bearing age a fibroid tumor should not be treated with radium or x-ray unless there is a definite contra-indication to pregnancy. In these cases myomectomy is the treatment of choice.

3. *The presence of pain:* In the great majority of cases pelvic pain is a contra-indication to the use of radium. The pain may be due to an old salpingitis or hydrosalpinx which often cannot be felt even by the most thorough examination. In these cases heavy radiation undoubtedly makes the pain worse and it becomes necessary finally to resort to surgery. A pedunculated submucous fibroid in the fundus gives rise to pain. Such a tumor cannot be successfully radiated both because it is impossible to place a sufficient amount of radium adjacent to it and because it may become deprived of its blood supply and remain in the uterus as a foreign body with consequent discharge and continued pain so that eventually surgery will be required.

If pain is due to pressure, then obviously the fibroid is too large to be treated by radiation.

In the following groups of cases radium is of value:

1. *Menorrhagia* at any age. Cases of menorrhagia in the past have been curetted—often without relief while radiation almost uniformly gives good results. The dose depends on the age of the patient. Excellent results are obtained from the use of radium in the large group of cases in which at the menopause there is a slight enlargement of the uterus and excessive bleeding. I believe that in these cases radium therapy surpasses surgery on account of the absence of mortality and morbidity and the ease with which it can be applied. Also in these cases radium is preferable to x-rays because its chief action is on the endometrium and not on the ovaries.

2. *Fibroid tumors of moderate size* without bleeding or other complications are amenable to radiation.

3. *Fibroid tumors* in the treatment of which surgery is contra-indicated by such complications as general invalidism, heart disease, pulmonary disease or diabetes, should be radiated. These cases can be relieved and the growth can be checked so that it does not cause a great deal of discomfort as long as the systemic disease allows the patient to live. It is possible, however, that the use of iletin may make it possible to operate safely upon diabetic patients with better results than can be obtained with radium.

CONCLUSIONS

1. In the Cleveland Clinic at the present time all cases of carcinoma of the cervix are being treated with a combination radium and deep x-ray therapy.

2. Carcinoma of the fundus should be treated by surgery.

3. Fibroids associated with pain in the pelvis or with discharge from the uterus, the cervix being normal, should not be radiated.

4. Radium is the treatment of choice for menorrhagia at any age; it is especially indicated in cases of menorrhagia at the menopause with slight enlargement of the uterus.

VALUE OF THE FULL TIME HEALTH OFFICER*

E. W. WEIS, M. D.

LA SALLE, ILL.

Our Secretary assigned to me the above entitled subject and while I believe the title in itself contains full information there may be something to say that might prove somewhat interesting. There are two kinds of health officers, part time, and full time. The part time officer is so numerous that when we do occasionally find a full time one it causes considerable comment, and the value of this paper will consist in a comparison between the two; and your essayist is in a peculiar position in that he has occupied both positions at various times. Public health work is rapidly being recognized as a specialty as is shown by the fact that numerous colleges have established special departments or sections for the teaching of those physicians who desire to give their full time to this work. Not only that but we have many societies and many sections of societies that devote their time to the discussion of public health matters exclusively.

Let us go back to the beginning, if we can, and try to discover the reason why there is need for these specialists. The practice of medicine has changed materially in the last decade or two. While up to a very few years ago the practice consisted of so-called curists, the rapid discovery of preventive measures has thrown it into an entirely different field, that is into the preventive class. And this is further evidenced by the lessened morbidity of those diseases that can and are being prevented. I don't mean by this that the aim and object of the medical profession is to simply prevent the ordinary infectious diseases but to prevent such diseases that result as a consequence of an improper method of living. To accomplish anything in this line those employed in public health service must be teachers and as good teachers as they are sanitarians and hygienists. Herein consists practically the difference between the full time man and the part time man. The part time man's value to the community is exactly in proportion to the amount of time that he renders in public health work, which is usually just as little as he can possibly give or what he can spare from his own profes-

*Read before Section on Public Health & Hygiene, Illinois State Medical Society, Decatur, May, 1923.

sional work. He is handicapped in so many ways. He desires to be just both to the public, to his patients and to his fellow practitioners, and frequently there is a strong conflict between the interests of these various ones, and, as a rule, the public has to suffer. In the full-time man's case the situation is reversed, the public, the community comes first, and in fact only, for he has no patients; and his relations to his brother practitioners, while cordial because he has need of their assistance, should be sufficiently firm to impress the fact that public health laws are made to be obeyed. In the question of education and as a mold of public opinion he should have considerable ability. If he cannot command the respect of his community his influence is nil. Do not misunderstand me in my criticism of the part time man. We have to have them. They are necessary because it is unfortunate that many municipalities apparently cannot afford to pay a salary for the employment of a full time man, and it goes without saying that according to the law of compensation a community only gets what it pays for. What can you expect, we will say, of a town of 10,000 which pays their health officer \$300 per year. This community gets \$300 worth of service, perhaps. But the field of prevention is not now as constricted as it was formerly. All that was done was to receive reports from physicians who happened to have a contagious disease and to issue an order for the placing of a placard, and at the expiration of the quarantine to release the same and tell the people to clean up. This field has been broadened for the full time man who not only looks after all sanitary regulations but seeks to prevent further infection by hunting down all possible contacts and holding them for the period of incubation. In doing this with the assistance of the school nurse, the usual focus of infection in the schools can be easily determined, and what under former conditions would result in a general epidemic is now confined to a very few cases. In our own department of health we have assumed so many different functions that it would really be impossible for a part time man to do the work. The early recognition and segregation of infection; the general sanitary condition of every street, alley and premise under his jurisdiction; the examination of milk and water with sufficient frequency; are absolutely necessary. The inspection of food stuffs, of restaurants and of hotels

must be made periodically. The sanitary inspection of industries is also compulsory with us. The supervision of every case of active tuberculosis, and care and education of contacts must be made. The inspection of all dairies supplying milk to the community is a necessary adjunct. The weighing and examining of all babies up to two years should be regularly made. Pre-natal work is becoming a prominent factor, and the early detection, report and care of venereal disease is absolutely necessary.

The value of the full time man is in direct ratio to, first, his knowledge and ability to early recognize all infectious diseases, second, his executive ability in enforcing all laws of sanitation and hygiene, and third, his freedom as much as possible from political entanglements. Probably the most important function that any health officer should possess is that he must be an expert in differential diagnosis. Many of you can recall the intense controversies that occurred in recent years because of the differences of opinion that existed as to whether a given case was a malignant infectious one or not. Whether it was a case of smallpox, or chickenpox, or whether another was scarlatina or roetheln. I have seen physicians divided into two camps, one pro and one con, each of them perfectly honest in their belief that their contention was right. To a lesser degree the immediate members of a family are entitled to consideration in that they should not be deprived of their freedom of action unless the diagnosis is beyond all question. Even with the best that can be done the expense and inconvenience that the other members have to undergo should never be lost sight of. On the second phase of this question in the enforcement of all sanitary laws the predominating feature is in being able to do so firmly and fully and if possible agreeably, and herein is where the full time man shows his greatest value. His duty is to the public and he should not allow anything to interfere with its protection. His sole responsibility should be that so far as his action is concerned there should not be a secondary case. If he finds a flagrant violation such as where those responsible are concealing cases then he should prosecute without fear or favor, but where he is satisfied that ignorance or at least partial ignorance may be responsible he should be able to discriminate and in that case rather than to punish he must educate. To enforce all of the

health laws both of the State and Municipality and to do it without incurring the enmity of almost everyone, I think requires a peculiar sort of disposition which is illustrated by a health officer prosecuting a case in which there was no question as to the liability. The defendant's attorney admitted to the court and jury the act as well as the law but appealed to the jury that the prosecuting witness was a mean man and the jury so found by declaring the defendant not guilty. Of course under conditions like this one's usefulness is gone. Every case is a problem unto itself and the value of the full time man is measured by his ability to handle them correctly. Now the third condition, and that is freedom from political entanglements, is to my mind the most important one, and one that is rarely found anywhere. It is unfortunate that the Health Departments are made a part of a political body. In our particular form of government it is a great source of regret that there can not be some way devised by which the health departments can be organized and carried on altogether outside of political influences. When I was a part time man I learned more about the political pull than I ever thought existed, and I have no doubt that this condition exists today in every health department of political appointment. It goes without saying that under such conditions one's best efforts cannot be put forth, or if he does the effect is immediately destroyed by the man higher up who desires it to be different. Through the efforts of a great philanthropist who lived in La Salle, Illinois, there has been placed upon our Statute Books a law which allows two or more communities to join together for the establishment of health departments and for the levying of a sufficient tax therefore, and the appointments to be made under this law are made by the boards of health of the respective towns as constituted under the law of public health districts. The executive officer to be appointed from a list of eligible's submitted by the State Department of Public Health, and the list is open to competitive examination. This removes the political factor about as completely as human ingenuity can remove it where the payment is made by the tax payer. The only exception and the ideal one is such as I am enjoying at the present time. The same philanthropist that I mentioned before, the late Mr. F. W. Matthiessen, caused a charter to be issued by the Secretary of State creating the

Hygienic Institute for La Salle, Peru and Oglesby, which is the accepted health departments of the three cities. He wisely left a sufficient amount of money as an endowment so that none of the expenses of execution falls upon any tax payer. The Hygienic Institute is controlled by a Board of Trustees, two from La Salle, two from Peru and one from Oglesby, who appoint the Director, and the Director is the Health Commissioner of the three towns. These trustees are all broad and liberal minded business men who are actuated only by the very best of motives and who are not influenced in any manner by any political situation. This situation is not only ideal but it is unique in that it is the only one of its kind in the world. Somewhat similar departments have been created since the adoption of the Statute measure in various towns and the same law has been adopted by the state of Ohio and declared good by its Supreme Court, but the element of political tincture clings to them somewhat.

DISCUSSION

Dr. John Dill Robertson, Chicago: That was a very good paper, but I am not going to let my friend Dr. Weis get away with the last chapter unchallenged.

He knows, as well as everybody else in this room, that there is no possibility of doing generally what he is able to do with a private philanthropy. True, we might change our republican form of government to a monarchy, with an absolute dictator as a ruler, and then be able to do the same thing that he can do with his private funds. They were able to do this very well under an efficient government in Germany when they had Kaiser Bill.

What is needed to help the situation is not the elimination of politics, but the introduction into our politics of the better elements of our citizenry. I am positive politics can be made to serve health work better than anything else, better than any other agent that I know of. I believe in parties, and I believe in holding parties responsible for the records they have made. I have had political affiliations in Chicago and some of the best help I have had has been from so-called politicians. I took part in every political campaign during the eight years of Mayor Thompson's tenure of office. Thousands of dollars were spent in gathering tens of thousands of people together for political meetings, and I made a health speech at each one of these, and told the people that Thompson should be supported because of his support of the health department, which had been instrumental in saving thousands of lives each year he was mayor. When we put 1,000 dirty milk dealers out of business in Chicago, they tried to use their political "pull" to be reinstated. The mayor would not respond to their requests and they could not go back into the milk business without

his O. K. All of these milk dealers had their friends, many of them politically strong, but the mayor stood adamant against their petitions. Of course, the milk dealers were against the mayor for closing their business, and did him a lot of political injury. What, then, was there left for a red-blooded man to do when he was being assailed politically but to take the stump, talk health, and tell the people the reason why he was being assailed. Tell them the health record and ask for his re-election on that health record.

The greatest difficulty with health programs generally is we have not injected a sufficient amount of politics. Issues are made out of 5c car fare, which become more important in the minds of the people than the safety of their own lives. Health should be the paramount issue in every political campaign. Through the political meetings I was able to talk to hundreds of thousands of people that I would never otherwise have reached. I talked to the people about our water in Chicago. If I had not talked, political influence might have created such a sentiment against chlorine that it would have been abandoned.

How does Dr. Weis get away with his health work in his city? Let's analyze him for a minute. He has made a personal situation of his town. Why is Dr. Weis a success? The big reason is because he is a politician. I do not mean politician in any bad sense. So many people take that word "politician" in the wrong sense entirely. They look upon a politician as some ward healer they have known, that does nothing and gets away with everything in sight. Dr. Weis is a high class politician. Was he not the Secretary of the Illinois State Medical Society for a score of years? Was he not politician enough to arrange all the details of his election each year? Did he not talk and pull his political wires at every meeting? Does he not yet attend public health meetings here, there and the other place, and women's clubs? Does he not talk to newspaper reporters daily? Is he not trying to get his policies or politics adopted by the people of his district?

My friends, what we need is not less politics, but more politics of a better brand. We hear a great deal today about the training of the man who is to be the health officer. Little is said about his personality, heredity and ability to lead. The training of the health officer, like men trained for other great service, should start at least with his grandfather. Given the right personality and leadership plus a good medical education, such an one will become a successful health officer. Any other training or knowledge that he may have received will, of course, be that much more to the good. But unless he does have the right personality and experience, no difference how much he knows about the science of health work, he will never be able to sell it to the people. Therefore he will fail. I do not care how much chemistry he has had—I admit he ought to know some. I taught it for 7 years. I do not say he must be an expert in pathology. I am thankful that I taught pathology for 6 years. But I do say he should be an expert on right

politics; in other words, be an expert politician. If he is not, he will not get very far because he will not know how to handle the forces necessary to do the things to be done. He will not know the avenues of approach in order to weld his political opponents' minds to his end, and his end is to advance the health of the people of the community. If he cannot do that, he fails.

Dr. Hastings, in Toronto, Canada, made a speech at the American Public Health Association meeting in Cleveland last year. He talked like Dr. Weis. Dr. Hastings is a wonderful man, a great health officer. He said he did not pay any attention to the politicians, but admitted that he lined up all the women's clubs, got all the newspapers with him, then got all the people of the town back of him, but still he paid no attention to politicians. Of course he did not, because he, the biggest politician in Toronto, had lined up a political army of his own which was impregnable.

When Dr. Weis and Dr. Hastings quit doing politics then they will be through doing health work.

Let's quit talking against politics in this free American country of ours. Without politics you would have no country. Let's make our country and politics better. Why shouldn't the health officers and doctors help lead our people to adopt better and better policies from year to year? We are living in America, with a government of, for and by the people. Let every citizen participate in politics, and together we will push every wrongdoer out of the game of politics and step in and run this great patriotic game as it should be run in these United States of yours and mine. For don't forget, it is your flag and my flag that bears these stars and stripes, and it is your land and my land that we must govern for the right, and it is your duty and my duty to select the best brains in sight. Let us help to keep it ever in the right.

You called on me, Mr. Chairman. You are responsible for this.

Dr. E. W. Weis, La Salle (closing discussion): It has been peculiar, but Robertson and I do always get in some kind of a scrap. He said to me one day: "Dang it, Weis, you ought to know more than I do because you are 5 years older."

I am obliged to the doctor for all the nice things he said about me and I am going to say the same things in return. You can just imagine I have said it. He has answered his own statement. The successful politician, unfortunately gets it in the neck sometimes and there is just the difficulty.

Dr. Robertson: I didn't. I resigned a year ahead.

That showed your political wisdom.

What the doctor told us about what has been accomplished by all these fellows is not due to political influence, it is due to ability in the first place and then due to the fact that he knows how to handle people, and I call that diplomacy. I don't call it politics. The man who is diplomatic enough to be able to make people believe that he was telling the truth when he was doing something else, as you say you did to your ward friend, that is good diplomacy and I think

anybody engaged in public work ought to possess that particular virtue to a considerable degree, and I know they can. In a political job the unfortunate part is when you are wanting to prosecute somebody here comes the alderman or the mayor and they want you to give it up, and you know if you do you will stultify Robertson: I shouldn't do it.

There should be political power enough that they wouldn't ask you to do it. When you get to the position that you are, the best health commissioner that Chicago ever had, you quit. With me, I don't care who is in politics, Republican or Democrat; I don't know the political affiliation of anybody connected with us. I know that people go to the mayor and say we don't want this thing or that to be done, he says go and see Dr. Weis—whatever he says goes and we have no power over him at all. It is a very comfortable feeling and I try to be just and as good as I can because I live with them.

Dr. Robertson: My point is that you can get the same comfortable feeling through politics as you have. You have to work for it, though.

TRIFACIAL NEURALGIA, ITS SYMPTOMS, DIAGNOSIS AND TREATMENT*

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Trifacial neuralgia is a disease of the gasserian ganglion which may be permanently relieved by division of the sensory root. The symptoms accompanying the condition may be differentiated distinctly from those of other neuralgias. Rather mild attacks of short duration begin during middle life, but increase in severity and duration. There is no permanent spontaneous cessation of pain, and the condition cannot be relieved without the institution of surgical procedures. In the treatment of 505 cases in the Mayo Clinic we have learned that the deep alcohol injection and the avulsion of peripheral branches offer palliative relief, but it is necessary to divide the sensory root of the gasserian ganglion to secure permanent relief.

Certain writers believe that trifacial neuralgia is due to ascending neuritis from dental caries; others, that it is due to a degenerative change in the gasserian ganglion; and still others that it is due to sclerosis in the ganglion. In opposition to these views, other observers believe that none of these conditions exists since it has been impossible to demonstrate them, either grossly or

microscopically. It would seem logical to assume that trifacial neuralgia is the result of infection of the ganglion, or of infection elsewhere in the system. As I have observed the disease it has been associated with multiple sclerosis, intercostal neuralgia, sciatic neuralgia, and with syphilis of the central nervous system. I have had patients under my care, who had more or less constant neuralgic pain in the ophthalmic branch following herpes ophthalmia, who were relieved by a division of the posterior sensory root. On the other hand, I have never seen patients with trifacial neuralgia cured by the removal of foci of infection; yet I believe that it may be assumed that the disease is the result of previous infection, since infections have been demonstrated in the ganglion in cases of intercostal neuralgia associated with, or following, herpes zoster; since multiple sclerosis is supposed to be due to an infection, and also because the central nervous system changes of syphilis are the result of *Treponema pallidum*.

Symptoms. In many instances trifacial neuralgia occurs much earlier than middle life, and it often occurs later in life. The attacks at first simulate toothache, and it is not uncommon for the patient to go to his physician and complain of a tooth or a sinus, feeling quite positive that if the local trouble is removed, the pain will subside. His disappointment comes when the attacks of pain continue even though one or more teeth have been removed or a sinus drained and irrigated. Pain is brought on by external irritation, such as washing the face, cleansing the teeth, chewing, swallowing, talking, and even exposure to air currents. The pains occur at first only during the day, not at night unless the patient awakens, and differ from pain caused by infected teeth or by a sinus, which remains more or less constant, regardless of sleep, and which, generally, prevents sleep. Trifacial neuralgic pain is described as sudden, severe, sharp, shooting, lancinating, excruciating pain; some patients compare it to an electric shock through the face and others describe it as similar to a red-hot poker jabbed into the cheek or jaws. The pain is of short duration, lasting from a few seconds to a minute or two, and during the paroxysm the face and eye may become congested; tears overflow, and the patient goes into all sorts of contortions in an effort to obtain relief. Many

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patients chew, rub their face, stoop forward and press their cheek during an attack.

There are trigger zones associated with the onset of the attacks; for instance, a patient may have neuralgia of the superior maxillary division with a trigger zone on the chin, which, if touched, will start the paroxysm in the maxillary division, or in another case, the trigger zone may be at the angle of the nose for a mandibular division neuralgia. The condition is more prone to occur in the third and second divisions than in the ophthalmic division. At first only one branch is involved, but, as the disease progresses, the other branches, including the ophthalmic division, are affected; however, the ophthalmic division is not so commonly involved as are the superior maxillary and mandibular divisions. In one case of double neuralgia the trigger zone was on the opposite side. Usually only one side of the face is affected, but occasionally (in about 3 per cent. of cases) both sides are affected, with a history of more severe pain on the side on which it began, there being comparatively short periods between the onsets. It is noteworthy that patients who have suffered for several years from unilateral neuralgia will not develop the condition on the other side.

Report of Cases. A review of the records at the Mayo Clinic, shows that 505 patients (275 males and 230 females), suffering from trifacial neuralgia have been observed since 1910. Three hundred twenty-seven of the patients had pain only on the right side of the face; 167 on the left side only, and eleven had pain on both sides. The youngest patient seeking relief was twenty-two years of age, the oldest, eighty-three years. The average age was fifty-four and one-half years, and the average duration of symptoms was approximately eight and one-half years. Twelve patients also had chronic nephritis, nine had diabetes, eight had syphilis, fifty-one had symptoms referable to cerebral arteriosclerosis, thirty-one had sclerotic changes of the brain and cord, forty-one had migraine, one had intercostal neuralgia, and seven had sciatica.

In three patients the ophthalmic division alone was involved; in eighty-three, the superior maxillary division alone; in 107, the mandibular division alone; in forty-four, the first and second divisions; in four, the first and third divisions; in 181, the second and third divisions, and in

seventy-seven, the first, second and third division. No record was made of the division involved in six.

During the course of treatment of these patients 1570 injections of alcohol were administered, an average of three and one-half injections for each patient. The average period of relief from pain was seven and seven-tenths months. Besides the injections of alcohol, 122 avulsions of peripheral nerves were performed for palliative purposes; teeth were removed from 226 patients, and palliative operations on the nose, throat, and mouth were performed on fifty-one. The total palliative measures instituted either by referring physicians or in the Clinic were 1969. Aside from temporary relief following the injection of alcohol and avulsion of the peripheral nerve, very little has been accomplished, despite the large number of palliative operations performed. No material relief was obtained from the removal of teeth nor from the fifty-one operations on the nose and throat: in certain instances the attacks subsided, but these periods of relief were possibly coincident with the natural interval of quiescence common to the disease, since the neuralgia returned with its usual regularity. Injections of alcohol and avulsion of the peripheral nerve, if properly carried out, will break the attack and prolong the quiescent period.

With the institution of the radical operation, or division of the fibers of the posterior sensory root, the patient is instantly and permanently relieved. The radical operation has been performed in the Clinic in 208 cases, and alcohol has been injected in 297; this group represents many patients who came for treatment prior to the encouragement of the radical procedure, patients who were too feeble to stand the shock which surgery involved, and patients who, while under observation, were advised to have two or three injections before submitting to the radical operation. Of the patients who were subjected to the radical operation, one was nephritic, four were diabetic, three, syphilitic, twenty-three had cerebral sclerosis, eighteen had sclerosis of the brain and cord, twenty-nine had migraine, and three had sciatica.

Of the 208 operations performed, one was a Hutcheson operation, fifteen were ganglionectomies, forty-two, avulsions of the entire posterior root, twenty-two divisions of the sensory

root by partially cutting and partially avulsing, and 128, cutting the root above the crest of the petrous bone. The motor root was preserved in the last twelve patients operated on. I have more recently operated on twenty additional patients by cutting the sensory root and preserving the motor root. Personally, I believe that the ideal operation for trifacial neuralgia is cutting the root on the crest of the petrous bone, and preserving the motor root, as no more time is required for this procedure, and paralysis of the pterygoid, temporal and masseter muscles is prevented. I have personally operated on 190 of the patients in the series reported, including three instances of recurrence. These three patients were among those operated on during my first year in this work, when the technic of avulsing the posterior root without the aid of the illuminated ganglion retractor was used. At the second operation, it was found that the sensory fibers had been left, accidentally. Such a possibility was eliminated with the introduction of the illuminated ganglion retractor, inasmuch as the retractor exposes the ganglion, the posterior root, and the dural opening above the petrous bone, as well as all of the areas involved.

Besides the 208 cases, there were five atypical cases of neuralgia in which the posterior root was divided. Two of the patients had pain following herpes ophthalmia; both were relieved by operation. In one instance the posterior root was partially divided and the ganglion and the third branch were resected, without relief from pain. In two instances the posterior root was divided, without subsequent relief.

One hundred seventy-six of the 208 patients were relieved instantly; twenty-two were relieved from pain, but were not relieved completely from symptoms, and the administration of nerve sedatives and a symptomatic treatment became necessary. However, all of these patients, except four, became well subsequently. Two of the four complained of pain in the eye, and two had syphilis of the central nervous system. The factor of especial interest in this group of twenty-two patients is that the severity of the neuralgia had deranged the nervous system.

The mortality associated with operations for trifacial neuralgia is not so great as that with abdominal surgery. In many instances, patients operated on for trifacial neuralgia are more than sixty years of age. Of the last 116 patients op-

erated on at our Clinic, three died; death was due in one case to diabetes, and in the other two to cerebral arteriosclerosis. One patient developed hemiplegia on the side operated on, with thrombosis of the vessels and softening of the brain on the opposite side; the other passed into a stage of coma from which they did not recover.

Records have been quoted of a large number of patients operated on without a fatality, but I believe that greater surgical risk, involving a mortality of 2 per cent. is warranted if the patient is suffering from neuralgia which cannot be relieved by either alcohol injection or peripheral nerve avulsion.

In view of the experience in the Clinic and that of other surgeons, it is quite generally accepted that the radical treatment of trifacial neuralgia, the division of the sensory root, is the operation of choice for the attainment of an instant and permanent cure. For patients in whom the condition has not long been present, and cases in which the diagnosis of trifacial neuralgia is uncertain, I believe that the deep alcohol injection should be employed for one, two or three injections. It should also be employed for patients who cannot stand the surgical risk involved in the radical operation, such as the very aged and feeble patients, and those suffering from severe cardiac or renal disease.

The radical operation has been regarded as very dangerous and hazardous on account of the possible hemorrhage, trauma to the brain, ocular palsy, trophic keratitis, facial paralysis, and motor paralysis of the pterygoids, temporal, and masseter muscles. With the present technic, hemorrhages rarely occur and, if they do, they can be controlled by ligation of the middle meningeal and the use of special instruments and cotton pledgets.

In my early experience, trauma to the brain following rents in the dura was not uncommon, owing to the cumbersome instruments that were employed, but we are now able to elevate the dura with the temporal lobe and to expose the ganglion and posterior root without causing any particular trauma. Ocular palsy was the result of the heavy instrument and the use of cotton sponges, which produced pressure on the third, fourth, and sixth cranial nerves, but with the present illuminated retractor the dura is held taut without causing pressure on these nerves.

Trophic keratitis occurs occasionally, but rarely following operation; it is generally caused by abrasions of the cornea due to the entrance of foreign bodies. Precaution against immediate postoperative keratitis is taken by avoiding trauma to the ophthalmic portion of the gasserian ganglion during operation. Facial paralysis develops occasionally, regardless of the technic employed or the care exercised by the surgeon; we have all had the experience, after operating on long series of patients without the development of paralysis, of having one unexpectedly develop without known cause. It is consoling to know, however, that facial paralysis is, as a rule, only temporary, and disappears spontaneously; it is imperative, of course, that the cornea be protected during this period. Motor paralysis of the pterygoid, temporal and masseter muscles following the avulsion or the division of the entire posterior root can now be avoided by isolating the motor branch from the sensory fibres before the division of the sensory root. On division of the sensory root posterior to the ganglion, the patient will experience immediate relief from pain, but will also experience numbness of the face, and eye, and along the margin of the tongue. This is very annoying at first, but it is merely a more extensive numbness of the type that is experienced following successful injections of the peripheral branches with alcohol. Therefore, it is well to administer two or three injections prior to the radical operation, so that the patient will become accustomed to the unpleasant sensation before the root is divided. After having one or two recurrences of the neuralgic pain, patients as a rule gladly accept the numbness in exchange for the spasmodic excruciating lightning-like pain incident to the disease.

Surgical technic. In preparing the patient for the radical operation, it is necessary to shave only a small area of skin over the temporal area. The incision is made in front of the ear, extending upward and backward from the zygoma; the lower point of the incision is situated 1 cm. in front of the tragus of the lower margin of the zygoma, and the upper point 5 cm. above the helix of the ear. The temporal fascia is also incised for a distance of 5 mm. in each direction at right angles to the incision along the upper margin of the zygoma, before the muscle is incised. This is followed with a trephine opening in the skull, enlarged to a diameter of about 3

cm. It is well to enlarge the opening in a downward and inward direction so that the approach will be directly inward along the floor of the middle fossa. The dura is elevated, the middle meningeal is ligated, and the third branch identified. The dissection is carried upward and backward, elevating the dura from the arachnoid, which is attached to the ganglion, but which is free from the posterior root fibers. As the dissection is carried up over the posterior root, the arachnoid is seen to pulsate, owing to the cerebral pulse. The arachnoid over the posterior root fibers is then opened by a small, sharp, right-angled knife, after which all the sensory root fibers in the posterior margin of the ganglion are exposed. The motor root lies underneath the sensory root on the mesial side until it approaches the gasserian ganglion, when it takes a fairly abrupt turn and passes obliquely downward and outward underneath the gasserian ganglion through a separate sheath of the third branch into which it diffuses.

Before dividing the sensory root fibers the motor root is brought into view and preserved during the division of the sensory root by gently elevating the posterior margin of the ganglion and partially rotating the sensory root outward from the mesial side. The assistant holds the illuminated retractor, and the surgeon uses one hook to elevate the ganglion and the other hook partially to retract and rotate the sensory root. The motor root lies underneath the sensory root and ganglion, and takes a downward and outward course, rather than following the posterior root fibers to the ophthalmic portion of the ganglion. As soon as the motor root has been isolated, the sensory root is divided with a sharp, small, right-angled dissecting knife. Care should be exercised, before closing the wound, to make sure that all of the sensory root fibers have been divided and that all bleeding has been controlled; if necessary, a small iodoform gauze pack should be used, to be removed in from twenty-four to forty-eight hours. The muscles, fascia, and skin are closed in layers. Aside from the application of ice-bags to the head for two or three days, for the comfort of the patient, the postoperative care is practically the same as that in general surgical cases. During the operation, the eyelids are closed with a strip of adhesive, which is removed after the patient has recovered from the anesthetic; the eye is then covered with a Buller's

shield to avoid abrasions or unnecessary rubbing during the immediate convalescence. On dismissal, the patient is advised to wear close-fitting goggles when out in the dust, wind, or snow, for about twelve months, as a precautionary measure against the entrance of foreign bodies into the eye or abrasions to the cornea. He is also advised to irrigate the eye twice daily with 2 per cent. solution of boric acid, to wash out any small foreign bodies that may have entered the eye during the day or night. From ten days to two weeks, usually, are required for the surgical convalescence, and, aside from protection of the eye and general postoperative surgical attention, no special care is necessary.

CONCLUSION

Trifacial neuralgia is a much dreaded disease and one that is not cured spontaneously; fortunately, however, it can be relieved palliatively and permanently. While the relief from pain necessarily creates anesthesia of the face, it does not disfigure the patient nor impair his health, and he gratefully accepts this in place of the suffering, which incapacitates the patient and often results in permanent invalidism. Since the mortality is low, the patient should be advised to have the radical operation after two or three injections of alcohol for palliative purposes.

RECURRENCE OF TONSILS AFTER TONSILLECTOMY*

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I believe it is generally admitted that lymphoid tissue is frequently found in the tonsillar fossae after well performed tonsillectomies; but the question of its origin has not been fully determined. Considering the great number of tonsillectomies performed for tonsillectomies it is no wonder we hear that familiar expression by the laity: "My tonsils have come back again."

I propose to present for your consideration the present opinion, based upon the embryology, anatomy, microscopical examinations of tissue and personal observations of the nature and source of this tissue.

Let us refresh our memories by a brief survey of the development of the tonsil:

At the third month of fetal life the first evi-

dences of tonsillar development are noticed. The anterior and posterior pillars arise. A splitting or new growth of the mucous membrane stretches backward from the anterior pillar to the posterior pillar, but it is unattached behind except above, the so-called plica triangularis.

At birth this plica's free margin has retracted somewhat exposing more or less these plaques. Three distinct masses of lymphoid tissue are observed and are shown as the upper, middle and lower lobes of the tonsil. Some anatomists describe only two lobes, an upper and lower separated by the introtonsillar fold. The extreme upper or posterior lobe is small and frequently is a mere overhanging mass of lymphoid tissue not unlike a soldier's helmet.

Figs. 2 and 6 in a nineteen-year-old patient show tonsillar masses still retained; also the presence of large plica triangularis.

Rod-like sprouts of various shapes and lengths appear in these lobes, the centers of which disappear and a series of hollow cylinders result which eventually appear as open pits upon the inner or medium surface of the faucial tonsil. Each series of tubes surrounded by lymphoid tissue is known as a follicle. These sprouts continue to multiply the number of follicles up to the second year after birth. These crypts or clefts now termed fossula reach to a greater depth and are more numerous in the upper than in the lower lobe.

The capsule of the tonsil is formed by pressure, a condensation of the deeper layer of the mucous membrane of the fossae, adjacent to the aponeurosis covering the muscle fibers of the constrictors of the pharynx, ending very abruptly at the ventral mucosa margins, especially in the region of the inferior portion of the fossae where there has been little pressure exerted. Off-shoots of this compact membrane extend into the lymphatic tissue, forming the trabeculae, separating the lobes and taking part in the forming of the several follicular units of the tonsils.

The fossae of the tonsil is that space where masses of lymphoid tissue develop upon the inner side of the capsule, never upon the outer side, and which is limited in its growth by the capsule externally and the more or less complete plica triangularis internally. The tongue growing forward causes the rapidly developing tonsil to emerge from beneath the plica pushing that membrane forward and upward. The depth of the tonsillar fossae depends upon the pressure exerted

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by the exuberance of the tonsillar growth, the firmness of the capsule, and the retraction of the plica triangularis. All gradations are found according to the prevailing conditions. The main upper lobe expands upward into the cul-de-sac which forms the superior angle of the sinus, the walls of which surround it like a hood.

Great proliferation of lymphoid tissue follows birth extending up under the cover of the soft palate "the buried tonsil." The exuberance often becomes exceedingly prolific around the outlet of the tonsillar sac, at times embedded beneath the mucous membrane under cover of the plica and anterior pillar where it is frequently so attached to these structures that masses of cryptic tissue remain unobserved; a deep vertical groove, corresponding to the anterior fossae, but it is a real crypt, with a shallow formation, adherent to the anterior pillar and plica tonsillaris.

As the human tonsil presents many varieties as indicated by its microscopical appearance it might be interesting and instructive to glance at the comparative anatomy.

Well defined tonsils seem to occur throughout the mammalia and present well marked evolution from the simple diverticulum, the lowest type, as seen in the tiger and leopard to the highest type as represented in man.

In the lower monkeys, opossums, wombats, etc., we find a cup or pocket-shape tonsil with deposits of lymphoid tissue on both the inner and outer walls of the capsule.

In the dog, bear and badger, etc., we find a solid tonsil with a diverticulum of lymphoid tissue apparently in the supratonsillar space. The disposal of the lymphoid tissue at the outlet of the tonsillar sac seems to depend upon the development of the diverticulum as to its form and direction.

The plica triangularis in man represents a differentiation of the mucous membrane at the edge of the diverticulum which is so marked in the tiger and leopard.

Histogeny of the Tonsil. As yet we can only theorize concerning the origin of the lymphocytes of the tonsil as well as of other lymphoid organs. Most authors, as Stohr Panelli and J. Schaffer, believe that the lymphoid tissue of the tonsil is developed from the middle germinal layer; others as Kupffer, Retterer, C. K. Hoffman believe in an entodermic origin, a metaplasia of the epithelial cells of the tonsillar buds. This theory owed

its conception to the supposed epithelial origin of the small cells of the thymus and well-known changes that take place in the cryptic epithelium of the tonsil. Neither the origin nor the character of the small thymus cells have as yet been definitely determined, consequently this theory has not been accepted.

These glands occupy a unique position, housed in, and protected by muscles on all sides except the lower or ventral side. These muscles are capable under normal conditions of removing the secretions and accumulations in a physiological manner. Nature has wisely provided clusters of mucous glands in the mucous membrane forming a sort of collar around the exposed portion of the tonsil. In view of these facts it seems clear that these glands were created for service in the animal economy; the true nature of which remains to be discovered.

Nevertheless it is a suggestive fact that the tonsil attains its greatest activity during the early years of life when the body is still growing and is greatly in need of large numbers of white corpuscles which they may furnish as well as an internal secretion, but it will be remembered that aside from the tonsils there are other lymphoid tissues which seemingly are quite adequate to care for these functions. Certain it is that no functional ill effects are discernable from their removal.

Some think the tonsil has more mechanical than physiological functions, contributing a solidity and firmness to the walls of the pharynx, in that way influencing the acoustics of the oral cavity effecting the resonance and timber of the voice.

In a recent paper read before the Chicago Otolaryngological Society, Grichter and Pearlman reported a number of cases where they found lymphoid tissue in the tonsillar fossae after tonsillectomies, when the tonsil was shown with its capsule intact.

In 1919 Harry L. Baum wrote (annals of Rhinology and Laryngology) that he had been able to demonstrate the presence of extra-capsular lymphoid tissue histologically both in the pillar and in the floor of the fossae.

C. W. Richardson of Washington, D. C., reported several cases in his own practice where tissue, lymphatic, glandular and granular had reappeared in or adjacent to the tonsillar fossae months and years after he had performed careful

tonsillar operations; other observers as well as the writer have had similar experiences.

In view of the fact that Grichter and Pearlman reported the presence of lymphoid tissue in 25 per cent of their cases, is it not reasonable to assign the presence of this tissue to a certain extent, to a "Reversion of type," since monkeys, opossums, wombats, etc., show deposits of lymphoid tissue on both sides of the capsule?

Secondly, another source is from the excessive proliferation of lymphoid tissue in the superior angle of the cul-de-sac, and remnants at the base of the tonsil about the margins of the capsule.

It seems to me that the foregoing statements are sufficient to account for recurrences of lymphoid tissue after tonsillectomies. Other contributory causes would be infections and scars of fibrous tissue which swell all lymphoid tissue in the vicinity. Frequent repetitions of infections present the appearance of large or small masses of tonsillar tissue remaining in the tonsillar fossae even when the operation has been performed by an expert surgeon.

I am fully aware that faulty technique accounts for a large percentage of recurrences, but this class of cases does not enter into the province of this paper.

In conclusion I would state that the wise surgeon will exercise great care and caution in speech and act when examining and treating tonsillectomized throats. Especially when he finds not only evidences of lymphoid tissue in the fossae, but actual masses of this tissue with cryptic formation and cheesy deposits. Great will be his embarrassment and consternation if he is informed by the patient that he operated on this throat some years previously. So think how your absent confrere would feel if he were present and heard your unkind remarks. Be charitable at all times and under all circumstances and treat others as you would wish to be treated by them.

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DISCUSSION

DR. J. HOLINGER, Chicago: Many years ago at a meeting in Cincinnati we talked over the problem of recurrence of adenoids and tonsils after removal. Dr. Holmes mentioned that he had a suspicion that the condition of the stomach had something to do with the whole problem. Thereupon I showed him a paper that I had written, reporting the history of a boy in

whom I had removed the adenoids. Three weeks later the boy came back with the nose completely filled again. I then removed the adenoids a second time and had the tissue examined, suspecting a malignant tumor. Nothing suspicious was found. When the boy returned a third time in the same condition I insisted on making a thorough investigation of the mode of living and the environment, etc. The boy had his own large room in a very sanitary house. After much questioning also about eating the father told me that the boy when coming home from school was usually hungry and ate some meat that was prepared for free lunch—the father was a saloon-keeper—and which was over-seasoned and very hot. He asked whether this might have something to do with the condition. I told him to see that the boy instead got some bread and milk when he returned from school and that he should abstain from the former habit. To the surprise of the father and myself the adenoids shrunk within a short time without further treatment and left the nose perfectly free. I showed that report to Dr. Holmes and he said, "I had only suspicions but you have the proof."

I would advise that you be careful about the diet of those people for you often find such children are not fed the way they should be. Usually they are overfed with unsuitable food.

The second thing I wish to suggest is that when you have opened up the nose you should be sure that the child breathes through the nose, i. e. that the nose is used for the purpose for which it is intended. Keep the nose clear of mucus. Have the children watched at night for mouth breathing after the wound is healed; insist that they breathe through the nose when asleep as well as when awake. If you take time to explain and have the co-operation of the parents in these points you will find that many of these secondary swellings will disappear and recurrences will be very rare.

DR. GEORGE W. BOOT, Chicago: Just one suggestion. You know that when we were children we thought if we hit a certain kind of snake it fell apart and then after dark would gather up again; as a matter of fact it grew a new tail. You have all seen crawfish lose a claw and have it replaced. It may be that this tendency to regeneration is a remnant of the earlier state of the race.

DR. CHARLES M. ROBERTSON, Chicago: Several years ago I operated upon a little boy at the Chicago Polyclinic who had very large tonsils and a large adenoid. That was when enucleation was young and the tonsils were absolutely enucleated in their entirety so that the capsule could be demonstrated intact. That boy was of the strumous type. He returned in a few weeks with tonsils about the original size. We re-operated and in three weeks he was back again with fully as much tonsillar growth present as at the first operation. I thought he was going to develop sarcoma but after the third operation the recurrence was nil. I do not know whether he was syphilitic or not but he was one of those patients who granulate rapidly. He also had adenoids, like

this (illustrating), and they had to be removed three times. The third time they remained away. These were supernumerary tonsils and adenoids.

The next time I noticed this condition was in a boy about thirteen years old. He got an enucleation and instead of the return being in tonsillar fossa it appeared behind the posterior pillar, like this (illustrating), and another tonsil appeared on the posterior pharyngeal wall. Those were just as large as the original faucial tonsils. These tonsils were ablated and after the one behind the pillar was taken away he developed one on the pillar. This shows the supernumerary type conclusively. This does away with the idea of leaving tissue in the fornix between the pillars as the only cause of recurrence of lymphatic tissue postoperative.

This was all clinical material and in demonstrating on the first case,—the boy had no idea of pain and did not care what we did to him—we could pull the anterior pillar forward and show the aponeurosis of the superior constrictor muscle after the completion of operation. The anterior pillar is thin and it has been my custom to pass the separating knife so that the blade could be seen all the way down through the pillar. This was always done for the purpose of teaching students to place the knife between the tonsil and the pillar and not into the crypt just behind the anterior pillar. You know there are four superior crypts in the tonsil and the one you usually get into is right behind the anterior pillar. You have to keep forward with the knife to keep out of that anterior crypt.

I have always thought that there is something about the general condition of the patient that produced this exuberant granulation when seen in postoperative cases. It is a piling up of tissue. There may, of course, be a remnant of lymphatic tissue left to proliferate. It may be that Nature thinks this tissue belongs here and if it is removed she puts it back again. At any rate, there are certain people whom you operate upon with particular care and after a short time they come under observation with just as much tonsil present as there was before operation. One case was very embarrassing to me. She was a tubercular patient, with one kidney entirely destroyed. She was sent to me to see if I could wipe out a probable infective focus. I enucleated the tonsils and she went to Los Angeles very soon afterward. I asked her to see a physician there and by the time she got there she had more tonsil than she had when I first saw the case. It is a fact that lymphatic formation may go on for awhile and then commence to shrink. We have all seen that. It is a regeneration of lymphatic tissue; whether it is an exuberant regeneration or an hypertrophy I do not know.

The function of the tonsil—even if we do feed it now and then in pills as an endocrine—is not known at all, but there is some function in the tonsil that occurs between the ages of four and six. Whether it acts as a sewer for throwing the material into the lymphatic stream, material which is thrown off in the formation of the accessory sinuses, or whether it has

some internal secretion which is furnished the blood stream is an unsolved problem.

DR. CHARLES H. LONG, (closing): There are just a few things I wish to mention. One is that fortunately these recurrences are with children of strumous type and those that easily get colds and infections. In the two cases I saw and removed the tissue they were both cases of "sore throat," so this does not mean anything serious, I am happy to say, but we must not forget that everyone here, on account of their silence, evidently expects us to have a great number of recurrences of tonsillar tissue after operation.

PEPTONE THERAPY IN ASTHMA AND OTHER ANAPHYLACTIC SYNDROMES*

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The last few years have brought out the use of a treatment in anaphylactic syndromes which seems to obviate the use of cumbersome cutaneous tests and specific therapy used heretofore. A. G. Auld¹ in 1917 first reported the use of an aqueous solution of Witte's peptone in a few cases of asthma. Since then numerous observers have tried this form of therapy with varying, but on the whole, encouraging results.

There can be no doubt that there is an inhibition of the anaphylactic reaction with resulting benefit in diseases in which this is the etiological factor. However, the name is somewhat of a misnomer. The commercial peptone contains a certain amount of proteose. An analysis² of various commercial peptones such as Armour's ordinary, Armour's siccum, and Witte's reveals a variation in proteose between the different brands of 100% to 300%. The toxicity has been found to vary directly with the proteose content and not the peptone. Auld³ found Witte's peptone two and one half times as effective as Armour's ordinary because while it contains about the same proportion of peptone the amount of primary proteose is over twice as great as in Witte's.

Mode of action. Injection of peptone in toxic doses produces a condition in every way similar to anaphylactic shock. Recent physiologic work seems to show that the fundamental reaction is a cellular one. J. P. Simonds⁴ has shown that in the dog this consists of a contraction of huge masses of smooth muscle in the hepatic vein. This results in a damming up of the portal circu-

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lation with rise in portal pressure, fall in venous and arterial pressure as shown by synchronous readings and associated acute swelling of the liver. It is a well known fact that smooth muscle is sensitive to peptone or to any protein to which the animal is sensitized. This fact furnishes an explanation for the anatomical and physiological basis of peptone or anaphylactic shock in different species. In the dog location of smooth muscle in the hepatic vein is a strategic position causing marked changes when called into action, as in the guinea or human being a similiar heaping up occurs in the lungs with resultant asthma when stimulated.

Various theories have been advanced as to the origin and nature of the substance which causes this contraction of the smooth muscle and other effects. It must be remembered that a gross symptom such as muscle contraction is only the local manifestation of widespread changes. As in one organism, asthma may be the outward manifestation, in others the stomach, eyes, skin, may show clinical evidence of the strategic susceptibility to antigen.

The simplest explanation of the underlying cause is that when an animal is injected with a second dose of protein to which he has been sensitized, a rapid formation of peptone from proteolysis of the antigen by antibodies takes place. The antibodies were produced following the first dose and are free in the blood. Since injection of peptone in sufficient dose gives a similiar picture to anaphylaxis the theory seems reasonable. Chemical analysis of the blood, however, fails to reveal increase in aliphatic amino nitrogen⁵. Another theory is that the peptone so formed acts as a catalyzing agent conferring toxic properties on the blood serum. The author believes peptone is the cause directly or indirectly of the condition in both peptone and anaphylactic shock, directly in peptone shock and occurring somewhere in the chain of reactions that must follow anaphylaxis from a whole protein agent. This point is the link that connects the two types of shock and makes it possible to use a subtoxic dose of peptone to break the chain of reactions in a sensitized person. If the reaction is broken at one point in the series, the whole thing cannot proceed and immunity results. In specific immunization with protein antigens we start at the very specialized whole protein end, in non-specific immunization we simply interrupt by breaking the series

of reactions at a point where the product is less specialized, at the peptone or proteose stage and gain immunity there.

The use of peptone in one anaphylactic syndrome with fair results naturally suggested a trial in other diseases either definitely anaphylactic or believed so. Auld⁶ as early as 1920 reported its use in a case of long standing typical migraine with relief of the condition. Recently Joseph L. Miller⁷ of Chicago reported twenty-five cases treated with from six to forty-two injections of peptone, with a percentage of thirty-six much improved, forty-eight moderately improved, sixteen not benefited. Results such as this in as intractable a condition as migraine are indeed encouraging. French workers⁸ have reported recently its use intravenously and per os in angio neurotic edema, puritus, eczema, erythema post prandial and hay fever. The author has used it with success in cases of cyclic gastro-intestinal attacks, lichen planus acutum, migraine, bronchial asthma and urticaria. Recently Crowe⁹ has reported that cases sensitive to vaccine after numerous treatments in chronic arthritis can again be made to take large doses without serious reaction if first desensitized with peptone. Its use therefore is varied and the value cannot be doubted from the number of observers reporting some help in these stubborn conditions.

Prognosis. Experience of different men in treatment of asthma in a considerable number of cases has resulted in laying down of certain rules which are very important in prognosis and treatment. In the first place accurate diagnosis is a prime essential. In order to do this an accurate history and examination is important. Cutaneous tests are not essential as in treatment with specific antigen but are a verification where used and when food sensitization is suspected, are necessary that the offending factors may be eliminated from the diet. The same general conditions influence results as in specific treatment. Cases respond better where there is little secondary change such as bronchitis and emphysema. Long standing and continuous cases are more difficult. Such cases are either non-sensitive or the reactive mechanism has completely broken down. Age of onset is important. Asthma coming on after thirty is more difficult. Children respond well. In general favorable conditions are lack of strong family history, early age of onset, regularity of attack with free intervals,

absence of marked secondary changes. Even, however, with conditions seemingly against recovery, peptome may be tried as in the most resistant cases some benefit is obtained.

Dosage. Some observers start with .5cc intravenously. My experience is that this is too large an initial dose. A very sensitive case will show a severe reaction with chill and fever on .5cc. A reaction is detrimental at the onset and must be avoided. I have obtained no reaction by starting with .2cc. The injections are given twice weekly. The dose is then increased .2 to .3cc each injection until about 1.5cc is reached. By increasing gradually a point is reached where there is a slight tightening up or increase in asthmatic symptoms a few hours after injection. The next dose should be about .2cc under this and continue along this way as the optimum dose.

A reaction is to be avoided at all times, hence it cannot be emphasized enough to start with a small dose. Starting with .2cc no harm can result even in the most sensitive case. It is well to work up to an optimum point and hold that without trying to increase and running a chance of getting a reaction. Crowe¹⁰ has also had this experience. From eight to twelve injections usually are given before much relief is obtained. Regarding permanency of results, Auld has reported cases relieved for eight to nine months, others may be relieved only three or four months and in a few cases no benefit occurs.

CASE HISTORIES

DISCUSSION

Mr. C. J. A., aged 54, has had Asthma past nine years. During first five years infrequent attacks with freedom between attacks. Past four years practically continuous asthma with some associated bronchitis. A questioning as to sensitization reveals idiosyncrasy to apple sauce and mustard. Pollens never seem to bother. Gains temporary relief by smoking gingseng weed and salt pcter and taking two aspirin tablets a day. Family history negative. Past history irrelevant. Cares for horses during summer months. Idle in winter. Physical examination negative except usual asthmatic findings and very little emphysema. Because of work with horses sensitization tests were made. Found patient not susceptible to horse hair, dog hair, cat hair; strongly positive to mustard, ragweed. Treatment was started with a very small dose, .2cc, increasing .2cc each time. After the sixth treatment the patient noted slight improvement. This improvement continued till the thirteenth injection or 1.2cc. The condition from here on remained about the same although the optimum point was exceeded at

the sixteenth injection with 1.75cc. The patient could now occasionally go through the night without burning a powder where before he burned one every two hours and never used more than one. After waiting a week till symptoms of excessive dosage subsided, two more injections of 1.5cc were given. The condition seemed stationary, so treatment was discontinued.

Mrs. E. E., aged 45 years. A similar case to C. J. A. of frankly sensitive type. Proximity to horses caused watering of eyes, sneezing and tightness in the lungs. Also bothered by straw and hay. Sensitization tests were positive to horse hair, dog hair, cat hair, timothy. The initial dose was .5cc, followed in two hours by a slight chill, rise in temperature and nausea which passed off in four or five hours. Following this the dose was increased .2cc at a time up to 1.4cc. She felt better after each injection up to 1.4cc when the asthma seemed to increase for a day following the injection. This is brought out by careful questioning after each visit to the office. The next dose was made .2cc below the former and no ill effects followed. This patient after her tenth treatment was able to go through the night without burning a powder where before treatment it took two to three nights and several during the day.

In all, nineteen injections were given with slight improvement taking place after the tenth dose. She still wheezes a little if having a cold or on severe exertion but is markedly relieved from the condition before treatment was instituted.

Two mistakes were made in this case. The initial dose was too large producing a slight reaction and the optimum point was exceeded at the eighth dose producing asthmatic symptoms. Several other cases are showing improvement as treatment proceeds. A detailed report will be made of these later.

Mrs. W. N., aged 53 years. History of chronic bronchial cough past ten years. Cough is worse during a cold and the past four years accompanied by wheezing at these times. Dyspnea was so severe she had to sit up in bed and several times had to call an M. D. to administer adrenalin. Denies any idiosyncrasy to foods or pollens.

Family history: Paternal grandfather had asthma. Maternal aunt had asthma. Patient has one child aged thirty-two who has asthma. Physical examination was negative except usual asthmatic findings. Cutaneous tests were negative except to a group containing beets, parsnips, radishes and turnips.

Treatment was begun while patient was having a cold and asthmatic symptoms, with by-weekly injections starting with .2cc. She was given twelve injections and told to return if during the next cold asthmatic symptoms were present. She returned in one week with slight recurrence. Six more injections were given. The asthma was relieved. Since then patient has had a cold with slight tightening up but marked benefit from condition before treatment.

These three cases are illustrative of the more resistant type. All are long standing, occurring in individuals in middle life, with considerable secondary change. Complete relief could not be expected but

undoubted benefit did occur.

Peptone treatment is not a cure-all but occupies a position exactly the same as specific therapy. It must depend on a responsive immunity mechanism for effect and in old cases or cases with marked secondary change these residual symptoms still give trouble. Cases C. J. A. and E. E. would probably be further benefited by autoginuous sputum vaccine in effort to clear up the secondary bronchitis.

CONCLUSIONS

- 1. Peptone therapy in asthma and allied affections offers a simple and effective mode of treatment.
- 2. Various theories are offered as to the manner of action. Physiologic study proves the identical nature of peptone and anaphylactic shock. This might be accounted for by the formation of proteose or peptone in the chain of reactions occurring in anaphylactic shock.
- 3. Peptone (proteose) treatment starts at the lower or less specific end of the reaction. Protein starts at the beginning of the chain or highly specialized end.
- 4. The first essential in prognosis is an accurate diagnosis by history and physical examination to determine presence of unfavorable factors.
- 5. Emphasis is laid on a small beginning dose, not over .2cc intravenously, and working up to an optimum dose with no further increase in amount.

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THE DIFFERENTIAL BLOOD COUNT IN HYPO-THYROIDISM

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In the rather scant literature on the subject, two views have been expressed regarding the differential blood count in hypo-thyroidism. One holds that there is a reduction in the percentage of polynuclears while the other insists that no such relation exists. My own limited experience agrees with the first. This series of cases is presented as a bit of evidence in support of this opinion.

We have classed as hypo-thyroid those cases having a metabolic rate of more than five per

cent. below normal. We believe such a rate indicates a mild grade of hypo-thyroidism and this agrees with the opinion of many men engaged in this sort of work. I believe there is little, if any, support for this in the literature. Had these cases been classified on the basis of plus or minus ten per cent. as being within normal limits only one case would have shown an exception to the rule that hypo activity of the thyroid is accompanied by a decrease in the percentage of the polynuclears. As classified in this paper i. e. including cases having a rate only six per cent. below normal, 79.3 per cent. conform to this rule.

Authorities state that the polynuclears should normally constitute from 65 to 70 per cent. of the white cells. We have considered 65 per cent. as the minimum count.

TABLE I.
MINUS

Name..	BMR..	Hb....	Poly...	Small..	Large..	Eosin..	Raso...	Trans..	Wbc...	Rbc...
Mr. E....	28	70	47	36	15	1		1	7,400	4,800,000
Mr. H....	20	80	58	38	4				8,000	4,800,000
Mr. L....	19	70	62	30	8				8,100	3 888,000
Mr. W....	16	80	70	22	6	2			5,600	4,200,000
Mr. Mc...	16		60	35	5					
Mr. H....	14	90	42	34	24				10,000	4,400,000
Mr. P....	8	85	73	20	7				9,200	4,300,000
Mr. S....	8	70	60	32	6		2		9,000	4,000,000
Mr. P....	6	85	64	29	6	1			8,200	4,600,000
Mrs. M...	23	80	64	25	12				16,400	4,000,000
Mrs. P...	20	75	53	35	11					
Mrs. D....	19		63	28	7	2				
Mrs. H....	19	80	54	31	9	2		4	12 000	4,000,000
Mrs. L....	17		64	29	6	1				
Mrs. L....	13	80	50	41	9				15,800	4,000,000
Miss B....	10	80	64	26	4	4	2		9,200	4,000,000
Miss B....	10	85	61	27	8			1	3 8,800	4,000,000
Mrs. S....	10	80	63	30	4	2	1		9,300	4,300,000
Mrs. J....	9	80	54	37	9			1	12,000	4,300,000
Mrs. S....	8	80	61	30	9				10,000	4,200,000
Mrs. B....	8		52	24	24					
Mrs. H....	7	70	61	25	14				7,600	4,240,000
Miss C....	7	80	61	30	6	1	2		9,200	4,500,000
Mrs. R....	7		68	31	1				9,200	
Mrs. B....	7	70	68	25	6	1			7,200	4,200,000
Miss E....	6	75	73	20	6	1			8,000	
Miss G....	6	70	65	29	6				6,600	4,000,000
Miss J....	6	85	63	29	8				10,000	4,500,000
Miss B....	15	60	40	40	19	1			9,800	2,630,000

This table presents the study of 29 cases each having a metabolic rate below normal and presenting symptoms believed to be due, in part at least, to thyroid deficiency. In some of them the thyroid was believed to be responsible for all of the symptoms while in others there were complaints not due to thyroid disturbance. In 79.3 per cent. of the cases the thyroid showed its influence on the blood regardless of the accompanying condition. The average metabolic rate was minus 12 per cent. The polynuclear count averaged 60 per cent; 24 cases had less than 65 per cent. of polynuclears while only 6 cases had 65 per cent. or more.

Of two or more cases having metabolic rates about equal it was found that the one having the

lowest polynuclear count tolerated the largest doses of thyroid with a correspondingly greater clinical improvement.

Mrs. P. having a metabolic rate of minus 20 per cent. is believed to have an insufficiency of the adrenals accompanying her hypo-thyroidism. This belief is based on the following facts; there is no obesity but on the other hand she is decidedly underweight, the skin is neither dry nor coarse and instead of the usual alabaster color there is a decided sallowness over the whole body but a more marked deposit of pigment is present about the temples and angles of the mouth. The teeth and nails are in good condition. There is a normal hair suit over the body. There is no deficiency of the outer third of the eye-brow i. e. the "signe du Courcil" is not present. The white line of the adrenal insufficiency is not present. I believe Sargent no longer regards its presence as indicative of that condition. There was considerable improvement following the administration of thyroid but when the basal metabolic rate had been restored to normal many of her symptoms were still present. These were quickly and markedly relieved following the administration of adrenal gland substance in the amount of four grains daily.

At this time I know of no other way of determining the presence or absence of "hypo-adrenia" than by some such method of diagnosis and therapeutic elimination.

During the same period that we were examining these hypo-thyroid patients we saw 34 who had normal basal metabolic rates. These had an average polynuclear count of 73 per cent. Only 11 of them had less than 65 per cent. of polynuclears. Of these eight had many signs and symptoms of hypo-thyroidism and were given small doses of thyroid with some improvement. That is, the determination of the metabolic rate alone was not allowed to overbalance the history and physical findings in making a diagnosis.

One of these cases having a normal metabolic rate but a polynuclear count of 61 per cent. was able to tolerate $7\frac{1}{2}$ grains of thyroid daily over a long period of time i. e. about a year. Coincident with this he experienced considerable improvement. This was shown objectively by a decrease in weight from 180 to 150 pounds and a drop in systolic blood pressure from 185 to 140. The complaints for which he consulted me were

backache and pains in his legs, due to an osteoarthritis of the spine of the hypertrophic variety, and a very marked fatiguability. While it is entirely unlikely that there was any improvement in the condition of his spine his pains disappeared and he was no longer troubled by the fatiguability. The basis on which thyroid was given in the face of a normal metabolic rate was the following facts; scanty hair suit, marked signe du Courcil, dry skin, brittle nails, slow pulse, obesity of the thyroid type, and the over easy fatiguability.

I feel that the determination of the metabolic rate should occupy about the same relation to the diagnosis of thyroid disturbance that the Wassermann does to the diagnosis of syphilis. That is, it should agree with the clinical findings and other laboratory work and be very carefully checked up before being accepted.

I believe there is a rather definite relation between the percentage of the polynuclears and the activity or lack of activity of the thyroid gland. Also that a deficient function of that gland is so frequently accompanied by a reduction in the number of polynuclears as to make the differential blood count of some value in the study of thyroid function. If this view should be found to be correct it offers a possible explanation of why the person deficient as to his thyroid function so readily falls prey to infection. Is it possible that the thyroid plays an active part in the history of the cellular elements of the blood and that the absence of a sufficient quantity of thyroid secretion delays the formation of polynuclears to such an extent that the body resistance is reduced below normal?

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AND, SPEAKING OF STARS—

Twinkle, twinkle little star,
 Now I wonder where you are.
 High above I see you shine,
 But according to Einstein,
 You are not where you pretend;
 You are just around the bend.
 And your sweet seductive ray
 Has been leading men astray
 All these years—O little star,
 Don't you know how bad you are?

—Science and Invention.

UNUSUAL EYE MANIFESTATIONS OF CEREBRAL SYPHILIS, WITH REPORT OF A CASE

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Diseases of the brain show ophthalmological findings in a great variety of pathological conditions of the cerebral structures and in some particular instance can exhibit a multitude of symptoms, depending upon the location, extent and kind of affection involving the brain. These eye manifestations of brain disease have long been the object of great interest, particularly as to the wide variability of the eye findings in different cases of the same cranial lesion. We may assume the relationship to the brain and the eye from the embryology and anatomy of these organs in that the retina is an outgrowth from the rudimentary brain of the primary optic vesicle and the optic nerves really being portions of the brain.

In syphilitic infections, any and all parts of the eye can be invaded by the disease. Two per cent. of all eye diseases are caused by syphilis and both eyes are affected in nearly one half of the cases. Of this syphilitic disease the uvea is involved in 43 per cent., the optic nerve in 24 per cent., the ocular muscles in 15 per cent. and the retina, cornea, lacrymal apparatus, lids, conjunctiva, orbit and sclera make up the balance. Of all inflammations of the optic nerve, syphilis is responsible in 18 per cent. of cases. Post-mortem records in cerebral syphilis show that one-half of the cases have some part of the ocular apparatus involved. One-fourth of these pathological lesions are situated at the base of the brain, involve the optic nerves and chiasm and present themselves in the form of gummatous meningitis.

Ocular symptoms in brain syphilis result from syphilitic disease of the cerebral vessels and gumma, or as stated before, gummatous meningitis, usually in the region of the chiasm or affecting the entire base of the brain. Gummatous neuritis affects most frequently the optic paths, second the oculo-motor nerves and third the other cranial nerves.

In cerebral syphilis Uhthoff¹ found 40 per cent. of his cases had pathologic changes at the disc, these changes taking the form of choked

disc, optic neuritis or neuritic atrophy and primary atrophy, all in the same frequency. He found also disturbances in vision without ophthalmoscopic changes, in the form of hemianopsia, usually of the temporal variety. He found the optic paths in these cases involved in one-half of the cases. In cases of hemianopsia two-thirds of these show optic neuritis or atrophy, one-third are negative. Other infrequent changes in the field are concentric contraction with a preserved excentric segment. Central scotoma is seldom noted and is explained by the sheltered location of the papillo-macular bundle.

Visual disturbances without ophthalmoscopic changes are not uncommon in cerebral syphilis according to Knapp,² and he further states that complete loss of light perception, if of short duration, need not be hopeless.

Choked disc may in cerebral lues completely disappear leaving an atrophic discoloration with comparatively good vision. The ophthalmoscopic changes at the disc in cerebral lues may be slight and transient and not in proportion to the severity of the lesion in the optic nerve. In the cases with simple atrophy, gumma is the cause in one-half of the cases, basal syphilitic meningitis accounting for the other half. According to Unthoff the intracranial part of the optic nerve between the optic canal and the chiasm shows a distinct predilection for pathological changes in cerebral lues, consisting of inflammation or gummatous lesions. The pathological changes at the intracranial portions of the optic nerves were generally an extensive basal meningitis.

Primary specific optic neuritis can occur where disease of the brain or orbit can be excluded and may appear as a simple optic neuritis, a choked disc or a retrobulbar neuritis, either in one or both eyes. The process occurs in the late secondary stage and is rebellious to treatment. In the cases with inflammation of the optic nerve and retina the Blood Wassermann test was found positive in 35 per cent. (Manson.)³

Patients with syphilitic disease of the eyeball do not usually develop cerebral syphilis. Motais⁴ believes that syphilitic disease of the eye indicates a serious prognosis and demands intensive anti-syphilitic treatment.

Pathologic changes in the retinal vessels pronounced enough to be recognized ophthalmoscopically are usually absent, though pathologic

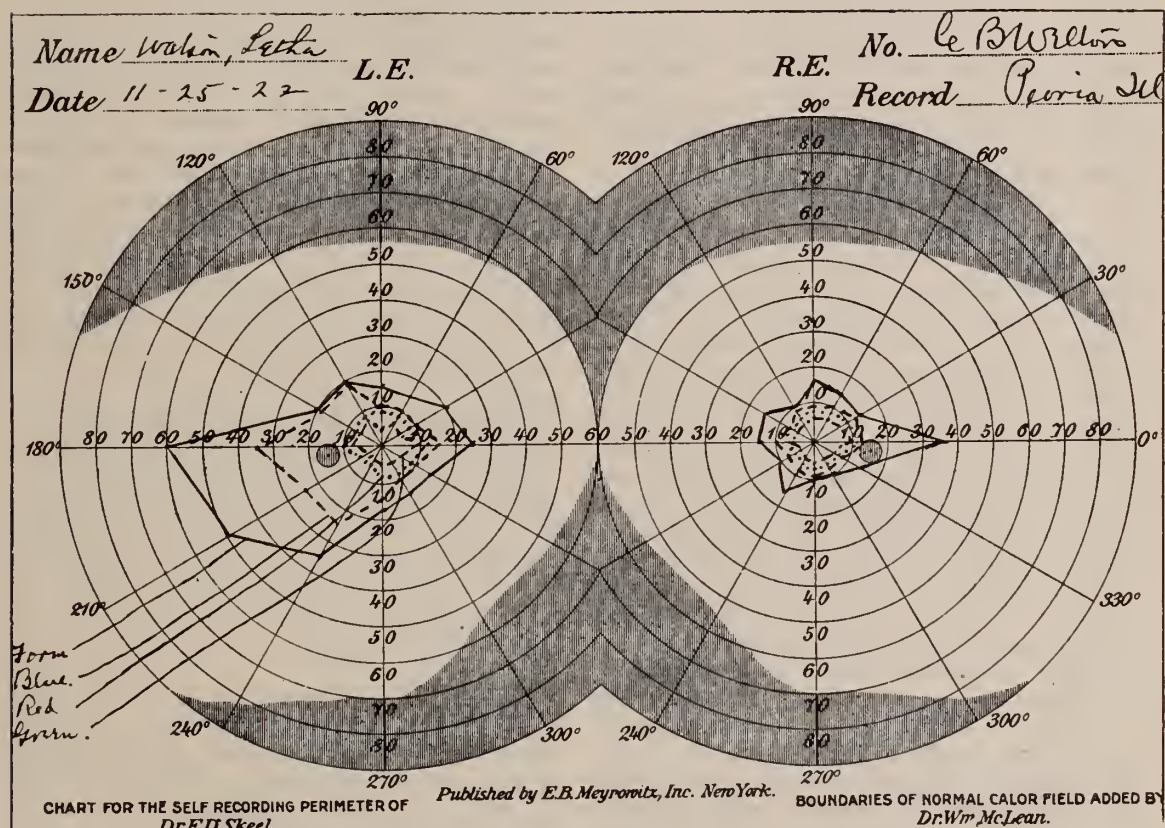
changes in the cerebral arteries in syphilis are frequent.

The oculo-motor nerves are frequently involved in cerebral syphilis. Bilateral oculo-motor paralysis occurs more frequently in cerebral syphilis than any other lesion. Paralysis of the oculo-motor nerves usually occurs however in the late stages, usually after one or two years.

Internal ophthalmoplegia is uncommon in brain lues. Anisocoria is occasionally an early sign, but it is generally a late symptom. Reflex iridoplegia or the Argyl-Robertson pupil is found

symptoms are absent. Hereditary cerebral syphilis causes only a small percentage of nerve lesions. Unthoff found that congenital lues was the cause of one-third of the cases of cerebral syphilis with associated peripheric changes in the eyeball.

In a majority of cases of neuro-syphilis, invasion of the central nervous system takes place during the first few months of the infection (Moore)⁶ and if early is a vascular type of brain syphilis. Among 62 cases with medical complaints not pointing to syphilis Gray⁷ found



in 10 per cent. of cerebral syphilis and occurs in a very small percentage in contrast to tabes, which shows 75 per cent. and paresis, which shows 50 per cent. Pupillary changes predominate in late syphilis. Dreyfus⁵ maintains that isolated pupil disturbances caused by syphilis (excluding diabetes, epidemic encephalitis, chronic alcoholism and other endogenous intoxications) with positive findings in the cerebro-spinal fluid are a sign of active cerebral syphilis calling for vigorous treatment, believing such cases may develop neuro-syphilis, tabes or paresis.

In 15 per cent. of cases of cerebral lues eye

there were eight in which syphilis was not recognised. In five of these cases the central nervous system was most gravely involved. Gray urges lumbar puncture be done, preferably after preliminary fundus examination on every syphilitic.

Recently Stross and Fuchs⁸ examined the eyes in 84 syphilitic patients with positive spinal fluid changes. A third of these patients showed ocular findings. Eye involvement was present in 17 of 49 cases of early syphilis (under 2 years). In the later stages of syphilis the eyes were involved in about half of the cases. Their survey of early cases of syphilis show considerable (16 per cent.)

optic nerve involvement, these assuming the form of slight papillitis with normal vision and none or only slight disturbances in the visual fields. In only two of their cases was central vision affected and both of these showed optic neuritis. In one case vision improved under treatment, the other showing no change. Stross and Fuchs also examined 23 patients in the early stages of syphilis in whom the spinal fluid findings were negative and in all cases the optic nerve was normal. They think that optic nerve changes occur less frequent in syphilis where no change is found in the spinal fluid.

I wish to present a case of cerebral syphilis in which there were unusual ocular symptoms. Visual disturbance, both central and peripheral, appeared as an isolated symptom without ophthalmoscopic findings.

The patient was a girl, 16 years of age, who had been having attacks of headache of a migraine type for several years. Then for five months there had been marked failure in visual acuity, so that in the Fall of last year she had to give up her school work on account of this reduction in vision. She could not at this time recognize her friends across the street. This girl was referred to me in November, 1922, for correction of an error of refraction by Dr. W. W. Cutter, the supposition being that this was the cause of her failing vision. Her history at this time was that of "sick" headaches aggravated by near use of the eyes, becoming more intense the past month. She was fitted to glasses two years before, but they were of no benefit and were discarded. Three years ago she had an attack of influenza. She states that when she returned to school the past Autumn that she noticed she could not see either at the distance or when reading as well as she had seen the previous term of school, and that now she can note distinct continued loss of sight the past few weeks. She is also troubled with photophobia and lacrymation. She is an undersized girl, with a marked pallor and weighing 110 pounds. She complains of a poor appetite, has attacks of tonsillitis, rheumatic pains in the shoulder and she suffers from a great deal of lassitude. She has also been somewhat deaf for a few months. Dr. Cutter states that she is anemic and has chronic appendicitis. Urinalysis was negative and the blood showed hemoglobin 70 per cent. On examination I found her vision at this time was 20/50 in each eye, not improved by any lenses. The fundi were negative. The pupils were equal, reacted normally to light, consensual and to convergence. She could not see ordinary newspaper print. The fields show concentric contraction for form and colors. The defect for white in the left eye reaches in to 20° above and colors proportionally contracted. The right fields show still greater contraction for both form and colors. Interlacing of the fields for colors and white was present.

There was enlargement of the blind spot down and to the temporal side in each eye. During the office examination when walking around she stumbled over objects in the room. All the ocular apparatus was normal and the visual disturbance was the only symptom present. Examination of the ears show marked deafness, watch, whisper and voice tests all being below normal and tests show these changes in the hearing to be nerve involvement. There were chalk deposits in both drum membranes. Examination of the nose shows a deflection of the nasal septum to the left side. Transillumination of the maxillary antrum was negative and no pus could be withdrawn from the accessory sinuses. The tonsils were small and pus could be expressed from them on pressure. Front and lateral X-Ray pictures of the head revealed nothing abnormal. A Wassermann test of the blood was made and this showed the blood normal. Lumbar puncture was then done and the spinal fluid showed positive luetic infection. Treatment consisted of salvarsan, mercurial injections and inunctions during an interval of six months. At this time I found improvement had taken place in central vision to 20/20 in the right and 20/30 in the left eye. The fields show some improvement, the right eye more. There has been a change for the better in the hearing, the right ear showing the most gain. She can now read newspaper print and recognizes people at a distance. Her headaches have not been so frequent, nor so severe.

The report of this case is of value because it shows that failing vision of obscure origin demands a Wassermann test of both blood and spinal fluid and that these visual disturbances may be the first warning of syphilis of the central nervous system. The involvement of the 8th nerve, producing deafness shows the extent of the basal syphilitic process.

Cases of cerebral lues with a negative blood Wassermann and with positive spinal fluid changes are comparatively rare (Wood)⁶ and the spinal fluid changes point out to us, not only the diagnosis, but the proper method of treatment. Also it must be recalled that one-half of the patients with cerebral syphilis show ocular involvement and 40 per cent. of these have ophthalmoscopic changes at the disc. The visual disturbances in cerebral syphilis are generally those of hemianopsia and cases of central visual failure without ophthalmoscopic findings are comparatively rare.

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DISCUSSION

DR. RAYMOND R. HARRINGTON, Chicago: In opening the discussion of Dr. Welton's paper I wish to state that through the courtesy of the Doctor I had the privilege of reading his paper beforehand and as a result of that there are some ten or fifteen points I wish to speak of in my discussion.

1. He says, "Post mortem records in cerebral syphilis show that one-half of the cases have some part of the ocular apparatus involved—one-fourth of the pathological lesions are situated at the base of the brain, involve the optic nerves and chiasm and present themselves in the form of gummatous meningitis."

I disagree here and think the Doctor meant serous meningitis. That is, an adherence of the pia mater and dura mater due to the serous exudate of an inflammatory condition, whereas a gummatous meningitis would be more or less of a tumefaction situated in the meninges.

2. "Gummatous neuritis affects most frequently the optic paths; second, the oculo-motor nerves and, third, the other cranial nerves."

Here I think was meant that an inflammatory neuritis is present due to involvement of the nerves and pia mater by inflammatory processes rather than pressure, as would be the case in gummatous tumefaction.

3. "In cases of hemianopsia two-thirds of these cases showed optic neuritis or atrophy; one-third were negative."

I believe that in cases of hemianopsia due to gummatous formation two-thirds show optic neuritis or atrophy due to pressure first forming an inflammatory state and subsequently leading to an atrophic condition.

4. "Visual disturbances without ophthalmoscopic changes are not uncommon in cerebral syphilis, according to Knapp, and he further states that complete loss of light perception, if of short duration, need not be hopeless."

The above is all perfectly true providing the cortical centers have not been the seat of involvement.

5. "Choked disc may in cerebral lues completely disappear, leaving an atrophic discoloration with comparatively good vision."

That is, provided it is associated with tumor formation behind the arc.

6. "In cases with simple atrophy, gumma is the cause in one-half the cases; basal syphilitic meningitis accounting for the other half."

Personally I do not believe that gumma alone is responsible for one-half of the cases of simple atrophy. I think it is the gumma associated with its neighborhood symptoms, such as induration and pressure which, if they persist, sooner or later lead to inflammation and swelling, and they in turn lead to the atrophic

conditions. A gumma behind the chiasm gives atrophy while a gumma in front of the chiasm gives a choked disc or papillitis.

7. "According to Uhthoff, the intracranial part of the optic nerve between the optic canal and the chiasm shows a distinct predilection for pathological changes in cerebral lues, consisting of an inflammation or gummatous lesions."

This is true, but the inflammatory lesions are very common while the gummatous lesions are very rare.

8. "The pathological changes at the intracranial portions of the optic nerves were generally an extensive basal meningitis."

I think to the above should be added, associated with it—its general symptoms.

9. "Patients with syphilitic disease of the eyeball do not usually develop cerebral syphilis."

I should like to ask the Doctor if he means the globe in its entirety, or does he mean choroiditis, scleritis, iritis, or the paralyzes of the ocular muscles?

10. "Pathologic changes in the retinal vessels pronounced enough to be recognized ophthalmoscopically are usually absent; the pathological changes in the cerebral arteries in syphilis are frequent."

This entirely depends upon whether an endarteritis is present, the walls of the vessels are thickened—the white lines are enlarged and the vessels are more tortuous; these changes may not show up with the ophthalmoscope unless very carefully examined, but will very readily do so under microscopical examination.

11. "The ocular motor nerves are frequently involved in cerebral syphilis; bilateral oculo-motor paralysis occurs more frequently in cerebral syphilis than any other lesion. Paralysis of the oculo-motor nerve usually occurs, however, in the late stages, usually after one or two years."

When the oculo-motor nerves are involved—the internal and external recti muscles are the ones most frequently involved—they will regain functioning power under treatment, but the clearing up may only be transient and recurrences is liable to take place at any time. When paralysis of the optic nerve does occur it usually is when tabes or paresis have set in.

12. "Internal ophthalmoplegia is uncommon in brain lues; anisocoria is occasionally an early sign but is generally a late symptom."

It has generally been found that anisocoria is not a very late symptom in tabes and paresis.

13. "Reflex iridoplegia or the Argyll Robertson pupil is found in 10 per cent of cerebral syphilis."

These findings depend entirely upon whether the lesion is anterior to the arc or posterior to it. If anterior, yes; if posterior, no.

14. "Dreyfus maintains that isolated pupil disturbances caused by syphilis (excluding diabetes, epidemic encephalitis, chronic alcoholism and other endogenous intoxication) with positive findings in the cerebrospinal fluid are a sign of active cerebral syphilis calling for vigorous treatment, believing such cases may develop neuro-syphilis, tabes or paresis."

The pupillary disturbances are a sign of active

cerebral syphilis calling for vigorous treatment when they are of an organic nature, but I believe that where one finds a positive spinal fluid we always have an absolute indication that there is a latent activity somewhere in the region supplied by the cerebrospinal tract.

15. In the case reported the Doctor stated that the girl had had repeated attacks of tonsillitis and appendicitis. I wish to ask the Doctor whether the tonsils and appendix have been removed. Why could not the above mentioned pathological state have had something to do with her general condition, such as pains in the shoulder, lassitude, pallor, loss of appetite, loss of weight and anemia? The Doctor does not state whether the patellar, plantar or ulnar reflexes were present, whether the Romberg sign was present, or anything about the reaction to heat and cold.

Regarding the interlacing of the fields for colors, one has the same findings in syphilis unless there is a gumma or tumor. The Doctor stated that the involvement of the eighth nerve, producing deafness, showed the extent of the syphilitic process, but I think this also could be a basilar syphilitic meningitis or a syphilitic neuritis.

In my opinion the case is most likely one of hereditary nature rather than acquired for the age of the patient speaks more for the hereditary form. The entire condition may have been due to lesions such as multiple gumma or perineuritis anterior to the chiasm, giving heteronymous visual fields, or along each temporal portion of the nerve back of the chiasm.

DR. GEORGE F. SUKER, Chicago: I think Dr. Welton opened up a large field for discussion. I do not know whether his conception of syphilis of the brain is the same as I have or not. In my opinion it should be divided as follows: Meningitic, endarteritic and neurosyphilis. The case he has cited I look upon as being of an inherited syphilis. It is very common in these cases to have a negative Wassermann reaction on the blood and a positive reaction on the spinal fluid. The older the syphilis the less frequently positive is the blood and the more frequently positive the spinal fluid. The Wassermann reaction should not formulate a basic opinion as to whether a patient is syphilitic at the present time or not because there are many injections of serum and so on that will cause a positive blood reaction but not the spinal fluid, so that has to be taken into consideration.

Regarding the pathological lesion in this case, I dare say that it is not gummatous but rather a basal meningitis and that the child may eventually develop tabes or general paresis.

The peculiar thing is that these cases of juvenile tabes do follow the early involvement of a basal type of meningitis. If the Doctor had had an opportunity to take the visual field early they would doubtless have shown that tangential encroachment with the loss of vision from above rather than below. The eighth nerve was also involved and that is further proof of the inherited syphilis. The patient had the typical Charcot symptom of early tabes, with but few restrictions. I would suggest to the Doctor that if he will make a very careful examination of the pupillary

reaction he will find a tonus and that the child has an incipient Argyll Robertson pupil. This manifests itself very early in syphilis in that accommodation to light is very sluggish and it will not hold its contractility to the light. It will not retain its tonicity; there is a sort of modified hippus.

A patient may go on and have the typical signs of tabes and yet not have the typical gait. As eye men we often overlook this in many cases because we do not make a thorough physical examination.

The treatment the Doctor pursued is very efficacious, but I would suggest that in addition he would have a frequent drainage of the spinal fluid. In all these cases the ventricles are extended and the cases are apt to develop on to the other symptoms the Doctor has mentioned.

DR. CARROLL B. WELTON, Peoria, Illinois, (closing): The question about the chronic appendicitis I can answer by saying that about two weeks ago the patient was operated on in her home town. I saw her two days ago and she had entirely recovered from the operation.

As to the tonsils, it was not a question of doing a tonsillectomy but of finding out what was wrong with the girl's eyes as the tonsils did not appear to have anything to do with her amblyopia.

I would state that the pupil reflexes Doctor Suker asked about were all normal. The pupils were absolutely normal as to light, consensual and convergence reactions. The internist who worked on the case with me reported everything normal in the general physical examination.

I would also say that the patient has no stigmata of hereditary syphilis,—no Hutchinson's teeth, corneal scars or other stigma, but I would rather lean to the side of hereditary syphilis in spite of such negative findings.

As to the treatment of the luetic disease, I had nothing to do with that, but shall be glad to bring the matter of repeated spinal puncture to the attending physician's attention.

TRAUMATIC ABSCESS OF THE NASAL SEPTUM IN CHILDREN WITH A REPORT OF FIVE CASES

C. F. YERGER, M.D.,
CHICAGO

Traumatic abscess of the nasal septum is of relatively infrequent occurrence, considering the frequency of injuries of the nose. In order to ascertain the incidence of septal abscess, the reports of the Illinois State Charitable Eye and Ear Infirmary were consulted. These included the biennial reports from 1897 to 1916, with the exception of the 1905-1906 report which could not be obtained. The reports since 1916, unfortunately have been discontinued. The available reports cover a period

of eighteen years, during which time 37 cases of septal abscess were recorded, but they were not classified as to whether they were post-operative or traumatic in origin. During these eighteen years, a total of 19,451 nose cases were treated; a ratio of one case of abscess of the nasal septum to 526 cases of nasal disease.

The majority of the cases of traumatic hematoma and abscess of the nasal septum occur in young children. In the five cases, herewith reported, one was four, one was six and three were seven years of age. In children, the force of the trauma may be very slight, if it is applied to the tip of the nose. This was emphasized in several of my cases: Case 1, had a very slight nose bleed, and Case 2, did not have any nose bleed.

The trauma consists of either a blow or a fall on the nose. The cartilage of the nasal septum may be distorted, dislocated or fractured, depending upon the degree and the character of the external violence. When a fracture occurs, it is usually longitudinal and it is located where the angle of flexion was most acute. Dislocation of the septal cartilage is rarely observed, but when it does occur, the separation is at the junction of the cartilage and the vomer, the cartilage overriding the vomer. In a lateral blow, the resilient cartilage of the septum is free to expand anteriorly, as the force is exerted laterally; the buffer effect of the elastic cartilages of the alae acts as a cushion, materially reducing the force of the blow on the cartilage of the septum. But, in a blow delivered anteriorly on the tip of the nose, the force is exerted on the anterior or free margin of the cartilage of the septum and is transmitted posteriorly to its rigid bony attachments with the vomer and ethmoid. The cartilage being unable to expand is forced to bend, break, or become luxated. The fracture may be without displacement in which event it is more often overlooked. A separation of the two embryologic septal plates may occur. As the resilient cartilage of the septum is unable to expand in the direction of the applied force, it bends laterally, forming convex and concave surfaces to the extent that there is a separation of the muco-perichondrium from the cartilage with rupture of the blood vessels; the resultant hemorrhage dissects the muco-perichondrium from the cartilage and produces a hematoma of

the septum. The bleeding raises the mucous membrane on the side of the concavity, while the fractured cartilage is displaced and forms the convexity of the septum. Frequently, associated with fracture of the cartilage, there is a perforation or laceration of the muco-perichondrium on one or both sides of the septum from which blood may escape. The site of predilection for perforation is in the anterior third of the septum, where the cartilage is thinnest and the mucous membrane is most delicate. If there be no puncture of the mucous membrane, the hematoma will remain sterile and the blood clot will become absorbed. Keiper,¹ noted the resorption of the hematoma in seven of thirteen cases of septal hematoma. A slight puncture of the septum predisposes to the development of an abscess because infection generally results and drainage is inadequate or absent; on the other hand, a large laceration of the mucous membrane, especially when located along its inferior border, where it is best situated to facilitate drainage, does not usually result in abscess. Many of these cases in children, on account of the insignificant trauma are not recognized. Indeed, it frequently happens that the trauma has been forgotten, and unless especially questioned on this point, it will not be elicited. The symptom which brings the patient to the physician is nasal obstruction. The duration of the interval between the trauma and the difficulty in nasal breathing is, of course, variable. In two cases, this was two days; in one case, three days; in one case, four days, and in another case, seven days.

Inspection may show a broadening of the external nose, the septum is greatly increased in width due to an anterior swelling on one or both sides of the nasal septum. The swelling is usually bilateral and symmetrically situated, red, sessile, soft and may fluctuate. It often has the appearance of hypertrophied inferior turbinates growing from the septum. On aspiration of the swelling, a bloody serous, sero-sanguinolent, sero-purulent or a purulent fluid will be obtained, depending upon the duration and whether it is sterile or infected. In one of my cases, pus was found on the fourth day after injury; in two cases on the seventh day and in two cases on the fourteenth day. Fever is

1. Keiper, G. F.: Abscess of the nasal septum, *Laryngoscope*, 1910, 753.

not present in the stage of hematoma, but it may be present in the stage of abscess. If there is an acute perichondritis of the septum, the external nose may present all the classical signs of inflammation. This is the result of a suppurative perichondritis and is found in cases where delay in the incision and evacuation of pus has occurred.

The diagnosis is apparent from the signs and symptoms. In the differential diagnosis, one should remember the possibility of the presence of a syphilitic gumma of the septum. This always involves the bone and there are usually present other signs of syphilis. The novice will need to distinguish it from polypus, hypertrophied inferior turbinates, and thickened deflected nasal septi with soft hypertrophy of the mucosa.

The prognosis of septal abscess depends upon how soon the abscess is evacuated, the earlier the better and vice versa. Nasal deformity is the result of unrecognized or improperly treated cases. Unsightly deformities occur in these neglected cases. The deformity may result from a large perforation in which the ring of cartilage is incomplete superiorly or inferiorly, but more often it is the result of a suppurative perichondritis with necrosis and liquefaction of the septal cartilage, which causes a lack of support to the cartilaginous septum and consequent collapse of the dorsum nasi at its junction with the nasal bones and the alar cartilages. The deformity is sometimes though improperly referred to as a saddle back deformity.

In the treatment of septal abscess, our immediate concern is the relief of the symptoms, obstructive and infective; remotely we are concerned with the prevention of the subsequent nasal deformity. The desiderata are, the early incision and adequate drainage of the abscess; the incision should be ample and carried as far anteriorly as possible and also down to the floor of the nose in order to provide gravity drainage; to secure an early replacement of the separated muco-perichondrium in contact with the cartilages so that it may become reattached and regain its function of nourishing the cartilage; in order to facilitate this, tube or gauze drainage should be dispensed with as early as possible. In aiding the approximation of the muco-perichondrium I prefer the largest sized rubber drainage tube that can be used, together with a sufficient quantity of gauze packing to at-

tain the desired result. The advantage of this method over the use of the Simpson splint is that the patient can breathe through the nose and it does not have to be changed so frequently. It is frequently difficult to provide continuous drainage as the tube or gauze inserted into the abscess cavity often will not remain in situ. This may result in premature healing of the incision and will require reexcision. The tube and gauze splint is used for one week, after which it may be replaced if wished by the ordinary perforated hollow hard rubber splint. The purpose of this is to secure immobilization until the stage of cicatrization has occurred, which is about three weeks, after which the splints may be safely dispensed with.

The following is the report of the five cases of traumatic septal abscess in children:

Case I. A. G., aged seven years, admitted to Illinois Charitable Eye and Ear Infirmary dispensary on December 22, 1917, with the history that one week before, while at play in her home, she tripped and fell, striking her nose against the end of a rocker, which caused her nose to bleed slightly for a few minutes, after which she resumed her play. Her mother noticed that three days later she had difficulty in breathing through her nose, and took her to a medical dispensary where the examining physician said she had a cold in her head. Several days later, she breathed so heavily that her mother became alarmed and called her family physician who said she probably had an abscess in her nose and referred her to this clinic.

Examination shows the right nostril is nearly occluded on account of an angular cartilaginous deviation of the septum; the left nostril is occluded on account of an abscess of the septum. This gives the appearance of a bilateral swelling with very great increase in the width of the nasal septum. On the right side, the swelling is hard and does not fluctuate, and on the left the swelling is boggy and fluctuation is present. The anterior naris of each side is occluded so that the patient is unable to breathe through the nose.

Operation: General anesthesia with ethyl chloride. An incision was made on the left side of the septum, a little internal to the mucocutaneous margin which evacuated the pus and a gauze drain inserted. The gauze came out prematurely the next day. The patient was not seen until three days after the operation when the incision had healed and pus had refilled the abscess cavity. Under the same kind of anesthesia the former incision was reopened and the pus again evacuated and a gauze drain re-inserted, care being taken so that the drain would not be removed prematurely.

Two years later, on Jan. 8, 1919, her mother again brought her to the clinic on account of her not being able to breathe through her nose during the past week.

Examination then showed a slight deflection of the anterior margin of the cartilage and the scar of the former operation in the left naris; the right naris showed a marked convexity of the cartilage, practically occluding it, and much mucopurulent secretion. The external examination shows a broadening of the nose, most marked through the ala, with slight depression of the tip. Making pressure over the tip with the finger demonstrated lack of proper support from the septum.

Case II. A. B., boy aged six years, was admitted to the clinic of the Illinois Charitable Eye and Ear Infirmary with the following history. While at play a week ago, he was struck on the tip of the nose by the elbow of a fellow playmate which resulted in a slight nose bleed. In a few days following this it was noted that the patient was unable to breathe properly through the nose, which has since continued.

Examination shows a bilateral swelling of the nasal septum, in which there is fluctuation. Aspiration of the contents of this swelling gives a purulent fluid.

Case III. F. D., boy, aged four years, admitted to Cook County Hospital, September 13, '21, with the following history. Four days ago he was struck on the nose with a milk bottle by a playmate. Nose bleed was not noticed. Two days later his nose became swollen and his left nostril became closed and two days later his both nostrils were occluded. Three days after the accident his mother took him to the family physician who found he had a temperature of 102.5° and he advised him to be taken to the hospital.

Examination shows a fluctuating bilobular swelling of the septum blocking either nostril, interfering with nasal breathing.

Treatment consisted of incision, evacuation of pus and the insertion of a gauze drain.

Three days later, owing to the difficulty of keeping in the gauze the incision had prematurely healed and had to be reopened. The cavity continued to discharge pus for six days when the discharge had ceased and the wound healed.

Case IV. J. D., boy, aged seven years, admitted to the clinic at the Illinois Charitable Eye and Ear Infirmary, April 6, '21, with the history that two weeks ago he was hit on the nose by a playmate. His nose bled slightly for nearly 24 hours. Since this he has not been able to breathe through his nose. Four or five days after the injury a swelling appeared in each nostril. Immediately after the injury the nose became swollen over the lower half of the dorsum.

Examination showed a bilobular swelling which was soft and edematous but did not fluctuate. The septum was a little deflected to the right. There was a slight perforation of the mucosa on the right side. There was no fever present. On aspiration a purulent fluid was obtained. The mother refused necessary treatment at the hospital and the case was not subsequently seen.

Case V. A. G., boy, aged 7 years, was admitted to the dispensary at the Illinois Charitable Eye and

Ear Infirmary with the history that two weeks ago he fell on his face. One week later a swelling of the nose was noticed.

Examination showed a bilobular swelling on either side of the septum having the appearance of greatly hypertrophied inferior turbinates on the nasal septum.

Treatment: Under general anesthesia with ethyl chloride, an incision was made along the floor of the nose on one side which liberated a large amount of pus and which could be accelerated by making pressure on the opposite side of the septum, on the other swelling. After the pus had drained, a rubber drainage tube was inserted and the opposite nostril packed so as to obliterate the septal cavity.

Subsequent treatment consisted of daily dressing, the drainage tube was dispensed with as early as possible, on the second or third day, and packing applied so that both membranes will unite as soon as possible and establish a firm nasal septum so as to prevent a sinking in deformity of the nose. After a week or so of observation the patient made an uneventful recovery.

CONCLUSIONS

1. Traumatic abscess of the nasal septum is relatively rare, considering the frequency of nasal trauma in children.

2. The majority of these cases occur in early childhood and are the result of a slight trauma. Many of these cases on account of the insignificant trauma are not recognized.

3. Unrecognized or neglected cases, not having had early and efficient treatment, result in an unsightly nasal deformity.

4. Every case of trauma of the nose in children should be carefully examined and observed for evidences of septal hematoma or abscess.

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DISCUSSION ON PAPER OF DR. YERGER

DR. A. B. MIDDLETON, Pontiac, Illinois: I have not had a case of this kind, but the plea the author makes for early treatment strikes me as very important.

DR. J. HOLINGER, Chicago, Illinois: The question of abscess of the septum in children has an angle which ought not be overlooked. The etiology of slight trauma, the age of the children are at once explained if we remember that abnormal teeth are often found in those abscesses. There is quite a literature on this subject. The short duration and the prompt and complete healing that Dr. Yerger spoke about are the exception. The rule is that the abscess closes and breaks open again and again till finally little sequestra of bone or parts of a tooth are exfoliated when it closes definitely. I have seen such cases extend over months and months. Sometimes it is a regular tooth, and then one is missing in the permanent set. Sometimes it is a supernumerary tooth. Always it is an abnormal growth of a tooth from an abnormal bud. Parts of the cartilaginous septum were repeatedly ex-

foliated, but only in one case have I seen slight disfigurement resulting from it.

DR. EDWIN MCGINNIS, Chicago, Illinois. Dr. Holinger is right in saying that this is quite a broad subject and amounts to more than the mere septal abscess. In one case a child of four years had a slight trauma of the external nose with the hemorrhage and headache and it was brought to me. The things Dr. Yerger brought out were all present and we decided to take the child to the hospital and drain the septum and do an adenectomy. We had some laboratory work done and found the staphylococcus. The child cleared up very well, but four weeks later developed a limp in the leg. She was then taken to an orthopedist, who discovered an osteomyelitis in the femur and from that was recovered the same type of staphylococcus that we found in the septal abscess.

C. D. THOMAS, Peoria: I recall two cases, that I would like to mention, with abscess of the nasal septum. One a boy of six and the other a boy of eight years. They were quite similar to those mentioned by Dr. Yerger. The treatment was very simple and we had no trouble. We opened and drained them, then placed a rubber drainage tube, well covered with sterile vaseline, in the naris so it would make good and sufficient pressure, pressing the Schneiderian membrane snugly up against the septum. Both cases made uneventful recoveries.

C. F. YERGER, Chicago (closing the discussion): My paper deals only with a very definite type of septal abscess in children, that due to trauma. This, of course, excludes the post-operative type of abscess following operations on the nasal septum.

The majority of the cases of septal abscess occur in early childhood and are the result of slight traumas. No small percentage of these go unrecognized because of the general lack of attention directed to this affection. This becomes a matter of very great importance to the patient, because if the condition is not recognized early and the abscess drained, a subsequent nasal deformity will not be prevented.

While it is true that septal hematoma and abscess are among the unusual occurrences in rhinologic practice, yet, I think that it is of more frequent occurrence than the reported cases in the literature would lead us to suppose.

OUR CHANGING PROBLEM*

A. MERRILL MILLER, M. D.

DANVILLE, ILL.

The problems of medicine today are essentially problems of the family doctor—the general practitioner. This valuable personage has been subjected to some pretty severe treatment in the last two decades, but, I believe, will not disappear from the social scheme. Medicine is in a cycle of change, just short of being revolutionary, in which the doctor is on the defensive. Of all per-

sons unfitted by thought and practice to withstand this upheaval he is the least prepared. By training, by practice, by *every* standard of measurement he is unprepared, and being so has been much at a disadvantage if not wholly grotesque at times.

This is indeed unfortunate, for the temple of medicine has as its unit of construction the family doctor. If he ceases to exist or falls from his place of honor the temple will suffer in consequence.

The family physician of 1923 is rapidly disappearing as such. Communities are entirely unaware of the fact that when this generation of hard working, resourceful and earnest humanitarians passes there will not be others to take their places. He should be appreciated since, it is my belief, he can not be replaced.

Of course changed conditions as preventive medicine, the automobile, hard roads, lay publications featuring medical subjects have done much to affect the former relationship existing between the doctor and his community; the facts are that many are without medical care, and already frantic appeals are coming in. In the past 15 years the number of graduates has been reduced approximately 50 per cent. This with the normal increase of population more than offsets the factors enumerated above.

It is discouraging to the doctor of long and expensive training to find his patients slipping off to the city specialist and to the local osteopaths or chiropractor. He loses sleep, fights the elements and is poorly compensated for his efforts, both financially and in appreciation.

Concerning specialists, we have witnessed a tremendous increase during the past decade—some real, others—well, not so real. The number has not increased because of urgent necessity, but by the attractiveness of shorter hours, institutional practice, and relatively higher compensation. There is no doubt (it is not a matter of argument) that a family physician doing a large general practice is more resourceful in an emergency, has more concrete medical facts stored for use, is more willing to meet conditions as he finds them, than is any specialist whom I happen to know; on the other hand, this very specialist has overworked pointing out the technical difficulties attending his activities. As a matter of fact the family physician is capable of handling a very considerable amount of this so-called

*President's address, Vermilion County Medical Society, December 4, 1923.

"special work." His balance and general poise will enable him to decide in the negative many cases which our specialist would decide positive. In order to function as a specialist he feels he must find and "do something" different. Back of it all is sometimes an economic complex.

Medical colleges have not met this problem—indeed they seem to be entirely unaware or unmindful of its existence. Sometime soon they must go to producing some clinicians to practice medicine for sick folk; more of internal medicine and therapeutics is the need. The courses now given are often by specialists doing the most limited practice. This very limited activity seems to be the primary recommendation for the place they occupy in the faculty. Naturally the product of their efforts will be highly trained scientists, long on calories and blood chemistry, perhaps expert in organ transplantation, but mighty short on clinical experience and judgment. And, primarily, you know a medical school is to educate physicians, not spot research workers.

Attention has been so feverishly directed to investigation and diverse forms of diagnosis, that it would not seem amiss to hope that something more might be done in therapeutics. Our shortcomings have not been due to diagnosis alone—but to treatment and a practical understanding of psychology. Our therapeutic nihilists, who a few years ago solemnly assured us there was nothing to drugs and biologicals, will have to admit there has been much benefit from:

1. Endocrine therapy.
2. Arsenicals in lues.
3. Quinidin in auricular fibrillation.
4. Protein therapy.
5. X-ray therapy.
6. The use of insulin, etc.

Now, we have no disagreement on ethical or educational grounds with the position of medical schools and their courses, but it must be apparent, that in some way they should meet the problem of increasing the number of clinically trained young men.

If they do not, and keep the cost of education so high that it is impossible for men to enter practice, the politicians will legislate the irregulars into equality with regular medicine. Their argument for recognition will have some weight if our colleges fail to supply practitioners for reasonable community needs.

A NEW TREATMENT FOR HAY FEVER, HYPERESTHETIC RHINITIS AND BRONCHIAL ASTHMA, BASED ON THE CALCIUM CONTENT OF THE BLOOD SERUM*

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In a preliminary report published in a recent issue of the *Journal A. M. A.*¹ we gave the results of our study with the calcium content of the blood serum in hay fever, hyperesthetic rhinitis and bronchial asthma. The method of calcium determination with definite data obtained in a series of cases was mentioned in detail. The therapy employed and the process of "calcium fixation" by means of the ultra violet light were elaborated. These phases of the subject will therefore be treated only briefly. In order to present the results of a more extended study, and also, to consider many additional phases of this problem, this second report was undertaken.

Views Concerning Etiology. We have taken occasion to review the various expressions of opinion regarding the etiology of hay fever and asthma. While many of these views are well known, it is interesting to compare the diversity of opinion which now exists. It is difficult, of course, to go into much detail, or to mention every work found in a very voluminous literature on this subject. However, the work of a few men stands out prominently, and no treatise on the subject before us would be complete without speaking of their efforts.

For several years past, it has been accepted that sensitization is by far the most important single cause of bronchial asthma. So much has been said and written along these lines that medical thought has been clouded, and the medical profession has been led to think in this one direction. In fact, some of the most able internists and rhinologists have become so dogmatic about sensitization as the single etiological factor in hay fever and asthma, and have kept themselves so busily occupied in performing skin tests, that they have overlooked the possibility of some underlying cause.

Kern² of the University of Pennsylvania states that according to various observers fifty to

seventy per cent of all cases give positive skin tests and clinical proof of sensitization. He believes that cases that develop in childhood and adolescence are practically all allergic, as the proportion of positive skin tests gradually falls with a rising age of onset. Those first appearing over the age of fifty are never allergic.

Vander Veer³, a short time ago, reported the results of treating about 2,000 patients with asthma, hay fever and allied conditions. He was able by means of injections of pollen extract to entirely relieve 25 per cent of this series.

Vaughn⁴ considers desensitization a specific treatment for hay fever, although he agrees that a not inconsiderable proportion of subjects experience little or no improvement, and a few apparently develop more severe attacks than in the years in which they received no prophylactic treatment at all.

C. B. Williams⁵, in discussing the etiology of asthma, hay fever and nasal hydrorrhea, is impressed with the idea that these disturbances are symptoms rather than diseases. He continues, "there is no longer any question as to the fact that sensitization to foreign proteins is responsible for at least the precipitation of attacks of all of these vaso-motor disturbances."

The concensus of opinion among all of the investigators mentioned, especially as to etiology, seems to be that sensitization is the one important factor. The fact remains that "pollen therapy in hay fever and asthma may be regarded at the present time as a promising method of treatment, but its value and the permanence of its results remain still to be definitely established." There are, however, certain writers who have recently expressed entirely different views as to the etiology, although in most instances, these are purely theoretical and not based on clinical experimentation.

In this connection the work of Schliack⁶, reported in the *Muenchener med. Wochenschrift*, is of interest. He regards bronchial asthma and hay fever as neuroses dependent upon an inherited neuropathic predisposition, and as belonging to the group of vegetative neuroses. In accord with this view is that of Perkins⁷, who also believes that asthma is a disturbance of the vegetative nervous system.

Whether the belief that one or the other of the several causes is correct, it is more than probable that hypersensitive reactions are not

all specific. As Pottenger puts it, "there is probably a group of asthmas which is due to causes other than specific sensitization to protein, such as reflexes from the nose, sinuses, intestinal and genito-urinary tract, and from the lung itself, as we sometimes see following healing in tuberculosis. The fact that asthmatic paroxysms are precipitated by changes in weather and by the inhalation of irritants calls attention to the reacting capacity of the patient as a factor of importance."

Physiologic Basis for Calcium. With reference to the theory of sensitization we are not at all in conflict, save that we believe that pollens are simply irritants or excitants. These excitants, we believe, will act only in individuals in whom there is a deficiency of calcium, and probably also, inorganic phosphates, in the blood serum. Whether this deficiency in calcium affects the nervous system, we are not in a position to state at this time. Researches conducted by Schliack and his colleagues demonstrated that a deficiency in calcium provokes hypersusceptibility in the nervous system, and that through the introduction of an excessive quantity of calcium it was possible during a longer or shorter period to increase the calcium content of the blood and temporarily to counteract the effects of calcium deficiency in the nervous system.

The explanation of Pottenger⁸ in attempting to justify the employment of calcium in the treatment of asthma is much along similar lines, although he goes into greater detail with reference to the action of various elements on cells and tissues. "Calcium if relatively in excess stimulates the sympathetic nerves. The action of calcium and potassium ions on the cells shows the same general antagonism in action that belongs to the sympathetic and parasympathetic components of the vegetative nervous system, and we must look upon them as being an essential part of the neuromuscular mechanism in all vegetative activities."

Harold Wilson, in 1915, was induced to make a trial of the calcium treatment of hay fever, having been greatly encouraged by the successes of Emmerich and Loew, who reported their results in the *Muenchen. med. Wchnschr.* in 1913.

Wilson was in doubt as to whether the ingestion of calcium salts has a direct inhibitory action on the proteolytic reactions which appear to be a necessary part of the hay fever complex,

or so modify this reaction as to render the split proteins less toxic, or whether they act by lessening the patient's nerve irritability. Although Wilson was satisfied that the administration of calcium was on a purely empirical basis, he tried the treatment on twenty-six patients and reported the most favorable results. He administered either the crystalline salt or the anhydrous calcium chlorid, and had no difficulty in the taking of the drug as thus prescribed. In brief, he summarized the results of his work thus:

1. Some hay fever patients taking not less than 3 gm. of calcium chlorid daily, even for a short time, are practically relieved from all hay fever symptoms.

2. Calcium chlorid may be taken in doses of 3 gm. daily for an indefinite time without any apparent injury.

3. It is not indispensable in all cases for a hay fever patient to take calcium chlorid over a long period of time in order to secure relief.

4. Calcium salts may be given, even when the nature of the patient's sensitization is not known.

5. The clinical results from the administration of calcium chlorid in cases of hay fever are such as to warrant its further trial.

THE CALCIUM CONTENT OF THE BLOOD SERUM IN HAY FEVER, HYPERESTHETIC RHINITIS AND BRONCHIAL ASTHMA

This second report is based on a large series of cases of hyperesthetic or vaso-motor rhinitis, approximately one hundred or more, and a smaller number of cases of hay fever and bronchial asthma. The typical hyperesthetic rhinitis presents symptoms with which most physicians are familiar. Paroxysms of violent sneezing, followed by a thin watery, serous, irritating discharge from the nose characterize the disease. There are also conjunctival suffusion and hyperemia. The mucosa of the nose presents a distinctly anemic appearance, a true pallor. The turbinates and the mucous membrane lining the septum are water-logged. The thin, serous discharge gives them a shiny appearance.

The calcium content of the blood serum was measured by the method suggested by Halverson and Bergeim⁹. The lowest figure obtained was 6.76 and the highest 9.8 mg. per hundred cc. of blood serum. The normal as accepted by most workers is 10.5 mg. per hundred cc. of blood serum.

In hay fever, the symptoms are more or less identical with those of hyperesthetic rhinitis.

However, hay fever is seasonal, while hyperesthetic rhinitis occurs at any time during the year, regardless of seasonal changes. In fact, by some, hay fever is considered as a hyperesthetic rhinitis which is characterized by pronounced symptoms, at certain times of the year. In hay fever, as in hyperesthetic rhinitis, the calcium content of the blood serum was measured. The extremes for low and high vary somewhat, as compared with those obtained in hyperesthetic rhinitis. In our series of cases of hay fever, the low was 9.9, while the maximum was over 11 mg. per hundred cc. of blood serum. In our first series of 36 cases, the low was 10.3. It will thus be understood that the calcium findings in hay fever are not much below the standard figure, some being in excess. It is more than probable, as we have mentioned in our preliminary report, that those patients who show a normal calcium figure, belong to a classification not included in the scope of this paper. These cases are probably associated with a low inorganic phosphate content, and the contributory cause is nasal or other pathology which we refrain from considering at this time.

Much the same state of affairs exists with reference to the bronchial asthmas. In some asthmas, the calcium figure is often high, although there is a marked improvement when the calcium metabolism is stimulated. Our asthma series averaged about 9.1 mg. per hundred cc. of blood serum, although in the initial series, consisting of only twelve cases, the average was 9.4 mg. per cent.

Basal Metabolism Studies. It is of considerable clinical interest to determine the basal metabolic rate before commencing treatment. The employment of this test and its application in the vaso-motor disturbances are not altogether new. Novak¹⁰, in 1921, measured the basal metabolism in a series of cases and found the metabolic index low in some. Perkins⁷, in the same year, undertook the study and in his report in the *Rhode Island Medical Journal*, writes as follows: "The author has been observing the possible causative factor in the thyroid during the past six years, especially of late, by using the test of basal metabolism in all cases of asthma or nerve symptoms associated with asthma, finding that there is an increased basal metabolism in these cases." Simpson¹¹, in 1922, also investigated the basal metabolism in

hyperesthetic rhinitis and asthma and found that only an exceedingly small number of hyperesthetic cases showed a low metabolic index. These somewhat contradictory findings make the subject more interesting and open up a new field for study of this phase of the problem.

THERAPEUTICS OF CALCIUM, THYROID, AND THE
COMBINATION OF CALCIUM AND THYROID,
IN HAY FEVER, HYPERESTHETIC RHI-
NITIS AND BRONCHIAL ASTHMA

Calcium, either as calcium lactate or calcium chloride in solution, has been administered in hay fever and also in asthma for some time past. No rational indication for this therapy has, however, thus far been offered, although good results were obtained when the drug was given over a long period of time. Until the present, this method of treatment could claim no more than "reasonable empiricism." The first references attempting to offer a physiologic basis for the employment of calcium in hay fever and asthma were found only recently, and these provide no experimental proof of their soundness.

Schliack tried calcium chloride on the basis explained earlier in this paper under the heading "Physiologic Basis for Calcium." On account of the disagreeable taste of the chloride it could not be taken in active doses over a long period. *Repocal*, composed of an emulsion of calcium chloride with milk fat and milk albumen, suitably aromatized and containing 12.5 per cent, by weight of dry calcium chloride, was finally adopted. A tablespoonful (equivalent to 2.5 grams dry calcium chloride) was given twice hourly in half a cup of water or milk, it having been readily possible to administer eight tablespoonfuls (equivalent to 20 grams dry calcium chloride) per day without discomfort to the patient. The average dosage in moderately severe cases amounted to from four to six tablespoonfuls daily (or 10-15 grams of calcium). One of Schliack's patients took ten tablespoonfuls in one day with no ill effects.

Repocal also counteracted, or at least markedly diminished, the tendency to attacks of asthma.

Pottenger,⁸ on the basis of his contentions, also employed calcium in asthmatic paroxysms. He tried to relieve the paroxysms in a severe asthmatic by producing a relative increase in the calcium content of the body cells. The remedy was given in the form of the chloride in doses

of 5 cc. of a 5 per cent solution intravenously. After the second dose, which was given two days after the first, improvement was noted, and after three doses, the patient was entirely relieved of paroxysms. (For a more detailed account of Pottenger's method, see his report in Calif. St. M. J.).

Our success in treating either of the vasomotor diseases with calcium alone, either as lactate or as chloride was not so encouraging. There was little improvement in any of the cases in which the oral administration of the drug alone was depended upon.

It was not until the calcium was combined with thyroid extract (or parathyroid) that favorable results were obtained. Any explanation of the action of the parathyroids is now at best speculative. Many theories have thus far been suggested. The consensus of opinion as expressed in the literature and quoted by Groves and Vines, tends to arrive at the conclusion that the parathyroid glands have a double function; first, a regulation of calcium metabolism, and, secondly, the power to render certain toxic substances harmless.

With reference to the action of parathyroid substance in hay fever, hyperesthetic rhinitis and asthma, the former contention is, in our opinion, the one to be relied upon, although, undoubtedly, the basis of the calcium deficiency is a toxic state.

In our hands parathyroid has not given the desired results. Probably this is due to the unreliability of this glandular product as it is now to be had. We have found that thyroid extract acts more favorably, especially so, when combined with calcium lactate. In hyperesthetic rhinitis, the oral administration of thyroid and calcium lactate has proved so efficacious that no attempt has been made to administer this therapy by any other route. In hay fever and asthma, the oral therapy should at first be given a thorough trial. If results are not forthcoming, the intravenous injections of calcium chloride may be given, the thyroid extract being continued by mouth. The calcium lactate is given in from five to twenty grains; the thyroid, dessicated, in from one-quarter to one-half grain, at first, three times daily, and later, reduced to twice and once daily, depending on the individual case.

In those individuals in whom there is a less-

ened ability to store up calcium, and in others in whom there is a more or less constant "leakage" of calcium, the dose will have to be gauged accordingly. For instance, it is a well recognized fact that most patients suffering with a hyperesthetic rhinitis have the most pronounced symptoms in the morning upon arising. The question why this is so has long been unanswered. It is our opinion that the explanation lies in the fact that there is a "starvation" of food calcium during the night interval of twelve hours or more. It has been definitely shown that if an hyperesthetic patient is given a quart of milk, or other food rich in calcium, some time during the night, the usual hyperesthetic symptoms in the morning are very mild, and there is little or no sneezing. The same result may be had by administering calcium and thyroid prophylactically three to four hours before bedtime.

For the intravenous therapy in bronchial asthma, our plan is practically the same as that suggested by Pottenger. "Five cc. of a five per cent sterile calcium chloride solution should be the initial dosage. Later as much as ten cc. may be given, depending on the individual case. Symptoms such as flushing of the face, a feeling of heat, perspiration, constriction in the throat, are mentioned by Pottenger as likely occurrences after calcium injections. We have not observed such complications nor any permanent ill effects. This is probably due to the fact that great care was exercised in injecting the chloride solution very slowly. This point in the technique is emphasized also by Pottenger.

The fundamental principle for the action of thyroid extract in combination with calcium is thoroughly and completely explained and justified by the statement of Sajou¹²: "When thyroid preparations are judiciously used, that is to say, when their action is controlled by giving only carefully adjusted doses, aided by the concomitant use, if needed, of other agents; results are obtained which soon convince the clinician that they constitute a very valuable addition to our armamentarium. Especially does this obtain, among other conditions, in diseases due to slowed destruction of toxic wastes, as shown by its action in tetany, migraine, asthma, etc."

Fixing the Calcium. The reason why the calcium therapy alone is not effective when administered orally, or even intramuscularly or

intravenously, was answered by the experimental work of Groves and Vines.¹³ In carrying out treatment for leg ulcers, based on calcium deficiency, they found that calcium therapy was effective when administered intramuscularly, but the effect so far as healing the ulcers was concerned, was only partial and temporary, until parathyroid substance was added. Then the calcium figures approached the normal and the ulcers healed. Groves and Vines found that regardless how low the calcium was, parathyroid increased it and replaced it by an apparently normal figure within a few weeks. In other words the parathyroid increased the power of "calcium absorption."

Although the parathyroid (or thyroid) stimulates calcium metabolism and probably fixes, for a time at least, the increased calcium content of the blood serum, the problem of permanently fixing this calcium had to be considered. In a small percentage of cases, there is no recurrence of symptoms; in a variable number, after some time has elapsed, a recurrence does take place. In this latter group it is evident that while the calcium content of the blood was raised during the drug treatment, it was not permanently fixed. This problem has been solved by the application of the rays of the mercury-vapor-quartz lamp, or actinic ray, or ultra-violet ray, as it is sometimes termed.

ULTRA VIOLET LIGHT IN RICKETS AND TETANY

In rickets and tetany experimentation and clinical experience have demonstrated conclusively that exposure to the rays of the mercury-vapor-quartz lamp aids the retention of ionic calcium in the blood serum. This has recently been proven by Orr, Holt, Wilkens and Boone.¹⁴ Alfred F. Hess,¹⁵ in discussing the influence of light on the prevention and cure of rickets, writes, "Experiments on rats have shown that rickets producing diets will fail to develop rickets if the rats are exposed to the sun. A deficiency of phosphorous will usually produce rickets, but exposure to sunlight is found to be approximately equivalent to doubling the intake of phosphorous."

"Artificial light produces the same result, particularly the mercury vapor quartz lamp. Daily irradiation at a distance of three feet for three minutes is sufficient to protect white rates fed on the standard diet."

Huldschinsky¹⁶ also has shown conclusively

that when children suffering from rickets are exposed repeatedly to the rays of the mercury vapor quartz lamp, healing of the rachitic process ensues. As Kramer, Casparis, Howland¹⁷ and others have reported similar results, the value of this form of therapy is no longer questioned.

The ultra-violet light has been used in asthma and hay fever, also, with more or less good results. However, no explanation or rational basis for this method has heretofore been attempted. Bach of Saxony, in 1916, in experimenting with various diseases, found that he was able to relieve ordinary attacks of asthma, by single treatments of the whole body. This same worker successfully treated ozena and especially hay fever, by local and general exposure. "The local treatment was so given that the rays were led into the nose by means of a speculum, the head and eyes being well covered with a dark cloth. Time of exposure from three to ten minutes; distances from the lamp, twenty inches. The treatments were given every second or third day, a general treatment always following a local treatment. In hay fever, the general irradiation was very helpful."

According to Osterman of Vienna, the effect of the mercury vapor quartz lamp, in cases of bronchial asthma, is as reliable as it is rapid, while Abels of Dusseldorf reports he was able to improve his cases of asthma, although a longer time and a greater number of treatments were necessary than that employed by others.

The reasons why these favorable results were obtained are thus obvious. If exposure to the actinic rays will raise the calcium concentration in rickets and tetany, the same effect should be had in hay fever, hyperesthetic or vasomotor rhinitis and asthma, if it has been shown that an analogous calcium deficit in the blood serum exists. Furthermore, the effect of the ultra violet ray is even greater. It not only raises the calcium to the normal and "fixes" it, but it also increases the power of calcium absorption and retention. We are, therefore, justified in considering the mercury vapor quartz lamp a "fixing" agent as well as a means of stimulating the calcium metabolism of the human organism.

COMBINED TREATMENT IN HAY FEVER, HYPER- ESTHETIC RHINITIS AND ASTHMA

In treating our series of cases of hay fever, hyperesthetic rhinitis and asthma, we found at

the very outset, that good results were obtained when ultra violet irradiations were employed without the aid of other treatment. However, the most expeditious and lasting effects were had when the drug therapy, as advocated earlier in this paper, and the irradiations were administered concomitantly. In any event, if the calcium and thyroid extract were given for from three days to a week before the use of the ultra violet ray, a fair clinical or therapeutic test was available. The mercury vapor quartz lamp is finally dependent upon to bring about the desired results.

The physical factors involved in ultra violet therapy, together with a consideration of many other phases, will be treated in a later communication. The technique is spoken of in the preliminary report, but for the benefit of those who are not familiar with it, we repeat in brief.

The lamp is raised about one meter from the patient and fractional body exposures are made, two or three times weekly, or oftener. The time of exposure, at first two minutes, is increased at each treatment by from two to three minutes, depending on the tolerance of the individual. At each successive treatment, the distance between patient and lamp is decreased by three inches. The smallest distance reached is about eighteen inches, while the longest exposure made may reach fifteen minutes, or in exceptional cases, when the tolerance of the individuals is great, twenty minutes.

OTHER METHODS NOW BEING EMPLOYED TO RAISE BLOOD CALCIUM

While this is the method of choice, the quartz lamp may not always be available. For this class of patients, undoubtedly, other measures, will from time to time be suggested. For instance, the prolonged administration of cod liver oil in diseases of calcium deficit has given excellent results. We have not had a sufficient experience in the application of this therapy, but appreciate the possibilities. The recent study of Park, Guy and Powers,¹⁸ as reported in the *American Journal of Diseases of Children*, is of much interest in this connection. In commenting, they say "the experiments demonstrate in a striking manner the regulatory power of cod liver oil on the calcium and phosphorous metabolism of the organism." Howland, Hess and Unger and many others have collected considerable data in conducting clinical investigations

along these same lines, so that it is reasonable to assume that cod liver oil may have the same influencing effect in other diseases than rickets and tetany, in which a deficiency in calcium, and probably also, inorganic phosphates, is present.

Of late, an intravenous product known as Afenil, has been used by some, chiefly abroad. Good results are reported. At present, in this country, experimental work with this product is now being conducted and time will determine its worth.

In certain climates, natural sun baths, daily, for long periods, increase the blood calcium. We have had several patients who were permanently relieved in this way. The problem of conducting natural solar treatments in these parts, during the winter months, offers so many obstacles, that this plan is not commonly resorted to.

The method of raising the blood calcium by foods rich in this salt has been tried. This is a practical but infeasible way, very slow, and poorly adhered to, by most individuals. Rigid attention to this phase, as a part of the regular treatment, is, of course, a very valuable aid in obtaining a prompt increase in the calcium content of the blood serum.

In conclusion, it must be added that in carrying out this investigation, the writers have not lost sight of other factors which suggest themselves in any similar study. While no mention is made of it in this paper, we wish to emphasize that the physical examination of the patient has always had attention. Such factors as focal infection, nasal pathology, or pathology anywhere in the body, must of necessity be properly handled in conjunction with any scientific plan of treatment. These deleterious influences are too well recognized to omit a consideration of them in their possible contributory etiology.

SUMMARY

1. The authors have previously reported the results of a study with the calcium content of the blood serum in hay fever, hyperesthetic rhinitis and bronchial asthma.

2. Various causes, with special reference to sensitization, are detailed. The conclusion, so far as the authors are concerned, is that sensitization to proteins or other products, precipitates the asthmatic or vasomotor attacks, the underlying basis being a deficit of blood calcium, and probably also, inorganic phosphates.

3. The physiologic basis for the administration of calcium is considered, especially as outlined of late by Schliack, Pottenger and Wilson.

4. The calcium content of the blood serum is always below the standard in hyperesthetic rhinitis. In hay fever and asthma, it is frequently low, although in the latter two diseases, the figures in a percentage of cases, approach the normal.

5. The results of basal metabolism studies by investigators are not uniform.

6. Calcium alone does not influence appreciably the diseases in question; thyroid alone relieves some; calcium and thyroid combined, in properly adjusted dosage, produces favorable results in most instances.

7. After the calcium content of the blood serum has been raised, it is permanently fixed by means of mercury vapor quartz lamp irradiations.

8. Recently it has been demonstrated that cod liver oil also has a regulatory power on the calcium and phosphorous metabolism of the organism.

9. Experimentation with other agents is now being conducted.

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Novak & Hollender on Hay Fever.

TONSILLAR DISEASE AND STERILITY IN WOMEN

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During the past few years I have had occasion to observe fourteen cases in which pregnancy followed a tonsillectomy in previously sterile young married women; these were cases in which, as far as I know, there was no apparent cause for the sterility; nor had the women any reason or desire to avoid conception but rather wished to have children.

In most of these cases the women consulted me on account of the sterility. Examination generally revealed some irregularity in the menstrual history and in all cases a diseased condition of the tonsils. In the fourteen cases, pregnancy followed soon after the removal of the tonsils. This was the only operative or other procedure common to all the cases.

The results obtained in this series of cases were so remarkable that they could scarcely be considered as coincidences, and led me to believe that the tonsillar condition had some direct bearing upon the previous failure to conceive.

In a search through the medical literature I have not been able to find any reports of cases of women previously sterile who became pregnant following a tonsillar operation, and ascribed as the effect of this operation.

There are, however, a number of facts reported that have a more or less indirect bearing on the subject. The literature shows that the tonsils, although not definitely proved to have themselves any endocrine secretion, are more or less directly connected with the hypophyseal and thyroid glands, the secretions of which are well known to be directly concerned with gonad secretion and sex functioning.

Although a proper tonsillar secretion has not been definitely proved, yet such an endocrine function has long been suspected. Masini¹ in 1899 from his experimental researches considered that the tonsils had a true and proper secretion which acted like suprarenal capsular extract in raising the blood pressure. Sheier² on the other hand found that tonsillar extract lowered the

blood pressure, but Pognat³ could not find that the extract had any effect upon the blood pressure.

The investigations of Caldera⁴ in 1913 seem to have been more or less generally accepted as signifying that the tonsils possessed no endocrine function. As the result of his investigations Caldera did not find any evidence to support the view that the tonsil had a specific internal secretion; and no clinical case had been reported in which a tonsillectomy was followed by symptoms which might be attributed to the loss of such a secretion.

The question, however, has not been altogether allowed to rest. Farmachidis⁵, who published his first reports in 1914 shortly after Caldera's findings, believes from his experimental researches that the tonsils are endocrine organs and that alterations in them cause glycosuria; he found that tonsillar extract was antagonistic to *andrenalin*. Blodgett's article⁶ on pancreatic diabetes due to tonsillar infection is also along this line. Flieschmann⁷ found that the tonsils had a secretion which gave chemical reactions similar to suprarenal, hypophyseal and thyroid secretions.

In the face of these varying opinions the question of a specific tonsillar secretion and of its function cannot be considered as yet settled.

That there is some direct connection between the tonsils and the gonads is not a matter of conjecture but a clinically established fact. Benjamin and Quirk⁸ recently reported a case of a man who developed bilateral orchitis following tonsillitis, not ascribable to any other cause than the tonsillar condition and which disappeared following tonsillectomy. Selfridge⁹ reports the case of a boy of 14 years, with sexual organs the size of those of a 5 year old, in whom several months after tonsillectomy the organs became normal in size for the boy's age.

Monod and Terrillon¹⁰ in their treatise on diseases of the testicle refer to the connection between the tonsils, testicle and ovary and especially in regard to the spreading of tonsillar infections such as mumps to these organs and this condition is clinically well established.

But the most remarkable work along this line is that of Citelli¹¹ and Caliceti¹². Citelli drew attention to a peculiar psychic syndrome observed in patients with adenoidal vegetations, especially adolescents. This syndrome included failure of

memory, somnolency, difficulty in fixing the attention and feminism. The feminism was very marked, with sexual frigidity. Citelli considered this syndrome to be of hypophyseal origin and not due to eunuchoidism, the genital organs being well developed and there being no other eunuchoidal symptoms. Moreover the syndrome disappeared after removal of the diseased tonsils and opotherapy with hypophyseal extract. Citelli believes that as a result of adenoid vegetations there may be alterations in the cranio-pharyngeal canal and hypophysary system. In these patients there was no evidence of an hypophyseal tumor nor involvement of the thymus. The hypopituitarism seemed to be directly allied with the adenoid condition. In the Citelli syndrome, substantiated by a number of cases, tonsillar disease appears to be responsible for the hypopituitarism and this latter for sexual organic disturbance. Citelli's findings were verified by others.

Many investigations bear witness to the influence of the hypophysis in the functioning of the gonads. King¹³ remarks that in any diseased condition of the pituitary which causes hyposecretion the result is either failure of the sex changes or reversion to the infantile type. That the pituitary gland becomes enlarged during pregnancy is well known, and even slight pituitary disturbances affect menstruation. Experimental work by Cushing, Houssay and others has shown that extirpation of the gland has marked effects on the development of the genitalia.

Assuming the correctness of these views and also that the tonsils have either a secretional or anatomical relationship with the hypophysis it might be argued from Citelli's clinical findings and other related facts that the tonsils have a direct or indirect relationship with the sexual functioning.

In regard to the connection between the tonsils and thyroid; that the tonsils are closely allied to the thyroid has been shown by Clevenger¹⁴, Boggess¹⁵ and others. Evans, Middleton, and Smith¹⁶ state that tonsillar lesions of an infective, cryptic character were found in 22.8 per cent. and nasal as well as tonsillar lesions in 90 per cent. of 362 goitrous individuals examined.

That the thyroid secretion is concerned in sterility appears to be supported by observations of von Fellenberg¹⁶ and Edgar¹⁷ v. Fellenberg in the belief that failures in the endocrine system were the chief factors in female sterility,

administered thyroid extract in cases of sterility without apparent cause. Conception followed in several of such treated cases. Edgar states that he saw two cases of sterility in women in Bahia in which polyglandular extract including thyroid was used followed by pregnancy and he mentioned one personal case in which a woman who has lost her menses regained them after similar treatment.

Favreau¹⁸ says that sterility is the rule in myxedematous regions and that numerous cases of sterility benefit from endocrine treatment.

I am well aware that much of what I have said is special pleading and offers no proof that a diseased condition of the tonsils is a factor in sterility. I have desired only to show that there is some basis for considering that the tonsil is an endocrine organ; that as such it is connected with the thyroid and hypophyseal glands, both of which have a known influence on the sex organs and genital functioning. I would therefore argue that indirectly, if not directly, tonsillar disease is concerned in sterility, not only in the female but probably also and for the same reasons in the male. My main point in support of this view is, however, the clinical fact that in several cases of long standing sterility without apparent cause pregnancy followed removal of diseased tonsils. This clinical fact is published in the hope that others who may have observed the same phenomenon may report it and add further knowledge to the problem of sterility in women.

Short histories of fourteen typical cases follow:

CASE HISTORIES

Case 1. Mrs. J. L. H., aged 28 years, consulted me July, 1916, to know why she is not pregnant. Patient is very desirous to have a child.

Clinical History: Usual diseases of childhood; nervous breakdown when 14 years of age; appendectomy, 1912, with uneventful recovery.

Marital History: Married at the age of 19. Lived with her first husband for three years. Never pregnant. Married to the present husband for four years and never pregnant.

Menstrual History: Commenced at the age of 14. Was irregular the first two years. Regular since the age of 17—every twenty-eight days. Severe dysmenorrhea the first two days which necessitates the patient to stay in bed. After clots are passed the pain ceases. *Physical Examination:* Negative except a pair of diseased tonsils, the right one exuding pus, and an ante-flexed uterus. The adnexia are negative.

Blood Pressure: 120 systolic; 96 diastolic. Wassermann reaction negative.

Blood Count: 5,304,000 reds; 10,800 whites.

Urine: Negative.

Tonsillectomy, August, 1916.

Patient came to the office the following March giving a history of amenorrhea of three months' duration, the date of the last menstruation being December 30, 1916.

She was delivered October 15, 1917, at the American Hospital of a baby boy weighing seven pounds, fourteen ounces.

Case 2. Mrs. C. R., aged 29, years, consulted me in December, 1916, for sterility.

Family History: Negative except that the father had diabetes and the mother was suffering from syringomyelia; the mother was under my care at the Michael Reese Hospital for several months.

Clinical and Menstrual History: The patient is plethoric; weighs 174 pounds, has been married for two years and had periods of amenorrhea for two or three months at a time but was never pregnant. Menstruation commenced at the age of 14; she menstruated then for two or three months but ceased until the age of 18. Since that time has never been regular. Has menstruated on the average four or five times yearly but never consulted a physician because she felt perfectly well.

Examination: Negative except two diseased tonsils and dilated heart.

Blood Pressure: 112 systolic; 90 diastolic. Wassermann reaction negative.

Blood Count: 4,800,000 reds—9,600 whites.

January 11, 1917, Tonsillectomy. Made an uneventful recovery. Came to the office on July 7, 1917, stating that she has had a period of amenorrhea since March 17, of the same year.

Examination: Pelvic measurements normal. Uterus pregnant and a small polypus revealed in the cervix attached to the left lateral wall. The polypus was removed at the American Hospital July 10, 1917. The patient was delivered of a baby boy on December 23, 1917, normal delivery without any complications.

Case 3. Mrs. E. R. consulted me on January 31, 1918.

Blood Pressure: 105 systolic; diastolic 84. Wassermann reaction negative.

Blood Count: 5 million plus red—7,200 whites.

Clinical and Menstrual History: Commenced to menstruate at the age of 16; was always regular; thirty days type and some time a few days over.

Married for four years and never was pregnant.

Examination: Negative except that cardiac dullness is enlarged transversely; tones are loud and irregular; murmur over the mitral valve; two diseased tonsils. Has lost considerable weight in the last few months; left kidney is movable and ptotic.

Urine examination: Negative for albumin, casts and sugar.

Microscopically pus and epithelial cells. Tonsils were removed April 16, 1918.

Patient came to the office September 10, 1918, giving a history of amenorrhea. Examination revealed a

pregnant uterus and she was delivered on January 29, 1919, of a baby girl weighing 9 pounds; instrumental delivery.

Case 4. Mrs. P. R. aged 24 years, consulted me May 26, 1921. A complete history was not obtainable on account of the patient's inability to speak English, but the following was elicited. She came because she has been married for six years and she has had no children.

Menstrual History: Metrorrhagia always, sore throat since childhood but worse for the past six months.

Examination: Negative except two diseased tonsils, large and imbedded. A mass was palpable on the left side of the uterus which was probably either a cystic ovary or a small fibroid.

Blood Pressure: Systolic 120; diastolic 90. Wassermann reaction negative.

Blood Count: 3,900,000 reds—10,400 whites.

The tonsils were removed June 6, 1921, and the patient returned to the office January 20, 1922, giving a history of amenorrhea since the removal of the tonsils. Vaginal examination revealed a large uterus, pregnant, pelvic measurements were normal.

The patient was delivered of a girl, March 22, 1922, normal delivery, girl weighing six pounds four ounces.

Case 5. Mrs. H. R. consulted me October 19, 1921.

Clinical History: Married for two and a half years; never pregnant. Had all diseases of childhood except scarlet fever. Repeated attacks of tonsillitis. Never operated upon. Present complaint: Tired, run down feeling; headaches over the eyes; nasal discharges and a foul odor from the nose. Has lost 22 pounds in the last four years. Comes to the office for general examination.

Menstrual History: Began at the age of 14. Regular every twenty-eight days, three days' duration. Has dysmenorrhea the first day.

Examination: Reveals a poorly nourished woman weighing 94 pounds. Two large diseased imbedded tonsils. Necrosis at the posterior end of the inferior turbinate. Blood examination: 3,800,000 reds—14,200 whites. Wassermann reaction negative. Urine, negative.

Blood pressure: 120 systolic and ? diastolic.

Operated upon November 19, 1921, for the removal of necrosis and tonsils.

The mass removed from the nose was examined by Dr. Ludvig Hektoen and the report was chronic inflammatory tissue with necrosis. Patient made an uneventful recovery and came to the office March 20, 1922, with a history of amenorrhea since December, 1921. She was delivered September 21, 1922; normal delivery of a baby boy at the Chicago General Hospital.

Case 6. W. M., aged 24 years, married three years, never pregnant and never operated upon. Came to the office for examination October 1, 1921.

Physical findings: Negative.

Menstrual History: Regular menstruation twenty-eight day type lasting seven to ten days.

Blood Pressure: 120 systolic—85 diastolic. Wassermann reaction negative.

Blood Count: 5 million plus red—9,600 whites.

On October 8, 1921, the tonsils were removed under local anesthesia. Patient returned January 31, 1922, giving a history of amenorrhea of two months' duration. She was delivered, forceps delivery, of twins July 20, 1922 at the Lake View Hospital.

Case 7. Mrs. G. B., aged 21 years, consulted me June 2, 1922, complaining of pain in the lower abdominal quadrant, one day's duration, with pain throbbing in character accompanied by chills but there was no nausea or vomiting.

Previous Illness: Had influenza; Curettment for sterility November, 1921. Has repeated attacks of tonsillitis.

Menstrual History: Began at 11—regular 28 day type of seven or eight days' duration—profuse—no pain.

Last period May 14, 1922.

Family History: Negative.

Physical Examination: Pupils react to L and A. Teeth negative. Tonsils diseased. Neck negative. Chest: lungs are clear. Excursion and expansion normal. Heart, functional systolic murmur at apex compensated.

Blood Pressure 130 and 80.

Abdomen soft. Tenderness in right inguinal region. Vaginal negative. Uterus and adnexia negative.

Wassermann, National Pathological, negative.

Tonsillectomy June 14, under local anesthesia.

Patient menstruated in June right after the tonsillectomy. Became pregnant and gave birth to a normal healthy child delivered by Dr. F. in March, 1923.

Case 8. Mrs. F. D., aged 24 years, comes to this office on February 4, 1920, to be relieved of menorrhagia and is desirous of becoming pregnant.

Examination: Head—negative.

Neck—negative.

Nose—septal perforation (traumatic).

Throat—diseased tonsils.

Chest: Heart and lungs negative.

Abdomen—well healed scar from a previous appendectomy (Dr. Carl Wagner at St. Joseph).

Blood Pressure—110 and 90.

Vaginal: Negative—rectum negative. Reflexes o. k.

Tonsillectomy and curettage (Dr. Abelio) April 7, 1920.

May 2, 1920—Comes to the offices saying that her menorrhagia is still persistent. Elix I. Q. & S.

September 16, 1921—Comes with a history of 3 months amenorrhea.

Delivered March 7, 1922, 2:15 a. m., of a baby boy.

Case 9. Mrs. J. A. B., aged 27 years, came to the office on July 2, 1920. Married four years and was never pregnant.

Menstrual history: Commenced at age of 14, irregular at first, of late years has been regular—thirty day type, four days duration accompanied by pain the first 8 hours.

Physical examination: Head—negative.

Neck—slight enlargement.

Dentition—good.

Pharynx—tonsils diseased.

Chest, heart and lungs negative.

Blood pressure 100 and 70.

Abdomen symmetrical. No tender points.

Vaginal: Retroversion patulous cervix. One external hemorrhoid. Reflexes o. k.

Advised curettage, removal of tonsils and hemorrhoid.

Tonsillectomy July 18, 1920.

Patient came to the office February 12, 1921, with history of morning sickness and amenorrhea.

Delivered July 19, 1921, of a male child.

Case 10. Mrs. F. B. G., aged 26 years, came to the office on February 8, 1921. Married 7 years and never pregnant.

Previous History: Appendix and ovarian operation at Toronto General Hospital during May, 1919.

All children's diseases except scarlet fever.

Four attacks of diphtheria. At the last attack had serum sickness which lasted 4 weeks. Was advised to have her tonsils removed.

Comes to the office for tonsillectomy.

Examination: Physical—negative except large tonsils.

Wassermann—negative.

B. C.—5,100,000.

W. B. C.—7,400.

Urine—Negative for sugar and albumin.

Tonsillectomy, March 3, 1921.

May 11, 1921, Patient states that she was due to menstruate the 7 of this month and has not been unwell.

Examination impossible to determine pregnancy.

June 24, 1921, examination—pregnant uterus.

Delivered at Lake View Hospital on February 8, 1922, at 4:45 a. m. of a male child.

Case 11. Mrs. H. K., aged 29 years, consulted me on August 10, 1920. Patient comes to be relieved of a persistent lump in her throat which comes and disappears without any particular reason. Was perfectly well until four months ago at which time she moved here from Baltimore. Married eight years and never was pregnant. Has had periods of amenorrhea three and four months' duration but came around without any difficulty. Patient is desirous of becoming pregnant. Patient refuses to be examined completely.

Examination—pupils react. No palsies; anesthesia of limbus.

Nose—negative.

Tonsils—large diseased.

Dentition—good.

Neck—negative.

Anesthesia of pharynx.

Diagnosis Globus—Treatment triple bromides. Advised removal of tonsils.

January 5, 1921, patient comes with a history of two months of dysmenorrhea and says that her tonsils were removed October, 1920, in Baltimore.

Diagnosis pregnancy. Delivered August 18, 1921, of a male child at the Lake View Hospital.

Case 12. Mrs. R. N. consulted me on May 30, 1921. Age 25 years. Comes to the office with a history of dysmenorrhea and menorrhagia. Seeking relief.

Menstrual History: Commenced at age of 16. Of 28 day type. Always had dysmenorrhea and occasionally amenorrhea. Married at age of 20. Was never pregnant. Husband has two babies by first wife. She thinks it is her fault. Feels perfectly well except two days prior to menstruation, has diarrhea.

Examination: Eyes protrude (exophthalmus?).

Pulse 110—Blood Pressure Systolic 104—Diastolic?

Neck—Pulsation of vessels. Flushed and enlargement of thyroid.

Pharynx is red—tonsils are large.

Chest—Apex is visible and pulsated rapidly.

Lungs—Excursion and expansion equal and good.

Heart—loud tones and rapid—no pathological murmurs are audible.

Abdomen—negative.

Vaginal—negative—Reflexes o. k.

Fine tremor is visible in both hands.

Diagnosis—toxic thyroid.

Advised tonsillectomy and thyroidectomy later.

Treatment—triple bromides, digitalis.

Tonsillectomy August 26, 1921, at Lake View Hospital.

Re-examined: September 2, 1921.

Pulse 96. Tremor better. Patient menstruates three days.

Dysmenorrhea persists and has not had diarrhea since her operation.

October 12, 1921. History of amenorrhea since September 6.

Diagnosis—Pregnancy.

Delivered July 12, 1922, of a male child.

Case 13. Mrs. D. R., aged 26 years, consulted me on August 4, 1921. Comes to be examined to ascertain the reason for her sterility.

Has been married seven years.

Previous History: Curettage at Michael Reese for sterility (Dr. Stein).

Curetted and had uterus put in place in 1918 (Dr. Schrager).

Had a stem pessary inserted same year to help pregnancy.

Husband is well.

Previous Illnesses: None except occasional cold and recurrent attacks of tonsillitis.

Physical Examination: Negative except diseased tonsils and mass on left side of uterus probable hydro salpinx or ovarian cyst.

Blood Pressure 100 and 70.

Urine: Negative.

Red B. C.—4,800,000.

White—9,600.

Wassermann: N. P. L. negative.

Advised laparotomy and tonsillectomy.

September 12, 1921, examined husband. Prostate normal. Denies venereal disease. No discharge.

October 17, tonsillectomy performed on Mrs. D. R. No hemorrhage.

January 20, 1922, patient has not menstruated since December 5.

Examination: Pregnant uterus.

Delivered September 23, 1922, at the Lake View Hospital of a baby boy.

Case 14. Mrs. M. M. S., aged 30 years, consulted me on February 15, 1921.

Patient comes to the office complaining of pruritus vulvae and inability to become a mother. The latter she knows there is no help for but the pruritus is only 6 weeks' duration.

Previous History: Has never been ill except root infection and pyorrhea. Occasionally a sore throat and a similar attack of pruritus and two years ago which was treated by an x-ray specialist successfully. It was cured after two treatments. Has received four treatments for this pruritus but this time her condition is aggravated and wants some injections to cure her condition.

Examination: Pupils react. Considerable dental work. No lower molars on left.

Pharynx—Red, diseased tonsils. Neck—Negative. Chest negative. Heart normal. Blood Pressure 90 and 70. Pulse 86.

Abdomen patulous. Evidences of loss of muscular tonicity.

Vaginal—Negative.

Vulva is irritated. A slight dermatitis of the labias is visible and some discharge from urinary meatus.

Microscopic examination of slide: Some pus cells and bacillus, probably colon?

Urine: Negative for sugar and albumin.

Treatment: Lotion calamine carbolic 1 per cent.

Advised rest and cold applications and removal of tonsils, as well as x-ray of teeth.

April 10, 1921, tonsillectomy, Lake View Hospital, under local.

April 26, condition better.

July 14, patient comes to office with history of amenorrhea of one month's duration. Date of last menstruation, June 2.

Delivered baby boy March 12, 1922.

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DISCUSSION

DR. CHARLES M. ROBERTSON, Chicago, Illinois: I wish to report two cases in which ton-

sillar disease was directly connected with sterility in women.

The first case was that of a woman aged twenty-nine, a brunette of medium stature, who had been in ill health for some weeks but not ill enough to interfere with her usual habits of life. She was pale and somewhat anemic, with continual sore throat, headaches which appeared at irregular intervals and muscular rheumatic pains which were chiefly situated in the neck and left shoulder. The nose was often intumescent on one side or the other.

She had menstruated regularly in periods which were normal, with no apparent female disorder. She had been married for eight years and although domestically happy and anxious for children had never become pregnant. She presented herself not for relief from this condition but for her throat condition.

A tonsillectomy was performed which did not present any peculiar signs or symptoms, and healing occurred as usual. At the first menstrual period following operation she became pregnant, but at the fourth month she aborted. Two months later she again conceived and has since given birth to a fine son.

The second patient was about thirty-three years old and had been married four years. She was a robust, energetic woman, but had cryptic, lacunar tonsillitis and presented herself for a tonsillectomy. The month following the enucleation of her tonsils she became pregnant, with no attempt on her part as she did not care to bear children at this period. She had never before had any sign of impregnation and her condition was a direct result of the elimination of infectious tonsils.

I give these two cases simply to record them as they are the first of which I have a direct record.

DR. GILBERT H. WYNEKOOP, Chicago: From the standpoint of a general surgeon, I am greatly interested in what Dr. Stapler has had to say. In considering sterility, we must have a clear conception of the definition of sterility, which in its broadest sense, is the inability to produce a living child at full term. However, many women carry a child almost to term and then give birth to a dead infant. Other mothers will produce two or three living children and then become sterile from no apparent cause. We must not forget the many causes of sterility, such as congenital deformities and pelvic infections. It is not unusual for the uterine secretions to kill the ova. The endometrium must be in a physiologic condition to receive pregnancy. I would have you remember that about fifteen per cent. of all cases of sterility are due to the man. No woman should be declared sterile until the husband has been carefully examined. Men are frequently sterile because of gonorrhea, chronic orchitis or sexual exhaustion. In my own experience, I now recall several cases of pregnancy which followed tonsillectomy, but I never associated the two conditions, but merely considered same a coincidence. Since Dr. Stapler has brought out this point, I am prone to conclude that tonsillar diseases

might be a contributing factor, in the production of sterility, and that removal of the diseased tonsils would so improve the general health of the prospective mother, that pregnancy would be more likely to take place.

DR. ANDRE L. STAPLER (closing): I have no definite conclusions but wish to stimulate interest in the subject. We have had only fourteen cases in two years. We have not reported the cases of this year. It is difficult to say whether the tonsil is an infected gland that has some relation to the sterility or not, but if there are others who have a similar experience and will keep the matter in mind and report it we will appreciate it. In that way we may be able to work out something really definite.

THE SURGERY OF SPASTIC PARALYSIS*

F. J. GAENSLER, M. D.

MILWAUKEE, WIS.

Paralysis is either flaccid with involvement of the lower motor neurone or spastic with involvement of the upper motor neurone. The surgical treatment of the flaccid type as applied to infantile paralysis is more frequently discussed and is more widely known than that of the spastic type. Indeed, many of the modern text-books devote but a minimum of space to the subject of treatment of this condition. While the prognosis is not what one may term favorable in many cases and distinctly unfavorable in others, the outlook is not as hopeless as is generally believed. It is for this reason that the subject is brought before you today.

Cerebral spastic paralysis for clinical purposes may be classified as (1) congenital, (2) acquired intra partum, and (3) acquired post partum. The pathology varies with the etiology. In the congenital type there may be absence or underdevelopment of entire convolutions or various degrees of porencephalitis. In Little's disease there is probably imperfect myelinization of the pyramidal tracts in children prematurely born. In those due to injury at birth the pathological end result is dependent upon brain contusion and intra cranial hemorrhage with thrombosis congestion and edema or cyst formation involving destruction of the cortical cells in a considerable area. In some cases only slight irritative lesions result. Those acquired post partum result from the various forms of meningitis and encephalitis, the pathological end result being due to the asso-

*Read before the Inter-State Assembly of the Tri-State District Medical Association, Des Moines, Iowa, Oct. 29, 30, 31 and Nov. 1.

icated inflammatory processes involving meninges and cortex.

The clinical picture will vary with the location, degree and extent of the cerebral involvement. The three components, muscular weakness, spasticity and incoordination are present in all possible combinations. The mentality is infrequently affected and here too impairment may be either slight or of very marked degree, amounting to actual idiocy. In most cases certain muscle groups are much more affected than others so that disturbances of muscle balance result. This becomes evident on attempts at walking when the weakness, incoordination and spasticity give rise to most awkward movements. When the spastic element predominates, the entire child may be rigid. In other cases the spasticity merely gives rise to a slight peculiarity in gait. The muscular weakness may be completely overshadowed by the spasticity. The so-called scissor leg gait in which the adductors of the thighs are over-active is characteristic of one of the common types.

Normally all muscles are in a state of constant moderate tonus resulting in what may be called a normal muscle balance. When this tonus is unequal, disturbance of muscle balance results and awkwardness in gait or other movement follows. This normal tonus depends upon an intact reflex arc including both cerebral and spinal elements. Sensory stimuli reaching the cortex are transformed into efferent or motor impulses traveling down the upper motor neurones which connect with the anterior horn motor nerve cells in the spinal cord. It is assumed that in cerebral injuries associated with hemorrhage the function of the inhibitory fibres in the pyramidal tracts is interfered with so that their dampening or regulatory effect is lost. The excitation of the lower motor neurones is therefore excessive and results in over-action of the muscle groups involved.

With this brief sketch of the physiology and pathology we may pass on to a consideration of the remedial measures. Muscle training deserves first consideration. It has been well said that the success of every method depends finally on muscle training but before muscle training can be applied to advantage, existing deformities must be corrected. Thus a long continued over-action of the thigh adductors will result in adduction contracture deformity and contribute to the scissor

leg gait and no amount of training will overcome this. In fact, efforts at muscle training before correction of deformity may be counted as time wasted. The first thing to determine therefore, is the presence or absence of deformities due to muscle contractures and correction of these when they exist. Shortening of the adductors of the thighs and of the heel cords is very frequent while flexion contractures at the hips and knees are also quite common. Correction of these deformities is accomplished by simple tenotomy or myotomy or by gradual stretching. Having overcome these obstacles, the logical attack is on the reflex arc, the unregulated activity of which is responsible for the muscular spasticity and incoordination. Direct attack on the intra cranial lesions has been advocated by Sharpe & Farrell of New York. They published a series of sixty-five carefully selected cases subjected to bilateral decompression in all but four of which they found a supra-cortical lesion, most often a cyst. These cysts were punctured and the walls removed as far as possible. In about forty per cent more or less improvement resulted. The improvement they attributed to diminution of pressure on the cells of the surrounding cortex.

In case of spastic paralysis associated with Jacksonian epilepsy Krause and others have recorded improvement in a few cases following an attack on the cortical lesions. On the whole, however, results of intra-cranial surgery have not been encouraging, at least in cases of long standing.

Foerster has attacked the reflex arc on the sensory side by laminectomy and section of the posterior nerve roots corresponding to the spastic muscle groups and while he has had excellent results in a comparatively large series of cases, this operation has never become popular on account of the relatively high mortality. In collective statistics the mortality has reached 15 per cent. Many of the cases are very poor surgical risks.

In 1911 Stoffel added a new procedure to the surgery of spastic paralysis by neurectomy or resection of sufficient portions of the motor nerves to the over-acting muscles. Thus in case of adductor spasm resulting in scissor leg gait, the obturator nerve supplying the adductor muscles is resected, resulting in sufficient weakening of this group to balance the adductors against the antagonistic abductors with immediate relief of

spasm. This operation has been used for relief of spastic over-action of practically all groups in both the upper and lower extremities. In the lower extremities resection of the nerves for spastic flexion of the knee and for plantar flexion of the foot are often required. Sometimes, also, lateral deformities of the foot due to spasticity of pronators and supinators resulting in valgus and varus deformity respectively call for correction.

Where as in the case of the adductor muscles the isolated nerves can be attacked, the problem is somewhat simpler than in cases where the nerve to be resected forms a part of the larger nerve trunk from which it must be isolated before resection. Stoffel has done a real service by his painstaking studies on the internal anatomy of nerve trunks. He found that the individual peripheral nerves can be traced upward some distance into the common nerve trunks as separate strands which can be isolated readily from the main trunk, also that in the larger nerve trunks these different strands occupy more or less definite relations to one another. They are not gathered into a common cable to mingle indiscriminately. Thus in a cross section of the medium nerve, the fibres to the pronator radii teres occupy an antero-lateral position, while the bundle for the finger flexors occupies a dorsal position in the trunk. This internal anatomy of the larger nerves has been worked out in great detail by Stoffel and while some doubt has been cast on the accuracy of his work by several investigators who have not been able to confirm his findings, it seems to me entirely logical that a more or less definite relation should exist.

While this definite arrangement of the individual nerve bundles in the larger trunk is of great value in the isolation of nerves to spastic groups, accurate determination by means of an electrode should be resorted to, in order that there may be no doubt as to the identity of the nerve tract to be resected. The suspected nerve tract is very carefully freed from the main trunk for a distance of several centimeters. The strand is then lifted away from the trunk and gently stimulated with a needle electrode, using the very weakest current which will still elicit a muscular contraction. By observation of the resulting muscle contraction, the identity of the nerve bundle is determined beyond question. Depending upon the degree of spasticity a portion of the

nerve bundle so isolated is resected a distance of about 5 centimeters, the thickness varying as a rule between one-half and two-thirds of the whole bundle.

In a number of cases in our own series both obturators were reached from a single transverse supra pubic skin incision following the technique described by Seelig with separate approach through the right and left rectus for the right and left obturator nerves. The latter are reached on the inside of the pelvis but extraperitoneally just before their entrance into the obturator foramen on each side. For resection of the nerves to the spastic ham string muscles the sciatic is reached in the mid thigh posteriorly. Spastic equinus is remedial by partial resection of nerves to the gastrocnemius and soleus group, the incision being made in the popliteal space and the respective nerves isolated. The same procedure has been used for over-action of the triceps in which the posterior cord of the brachial plexus is reached in the upper arm on the medial aspect while the overacting pronator radii teres is dealt with through an incision on the median aspect of the arm exposing the median nerve. The technique for reaching other groups has been carefully worked out. This operation is used more and more and promises to maintain an important position in the surgical relief for spastic paralysis.

Much the same principle actuated Allison, who advised alcohol injections into the nerves to the spastic muscles and Jones who advised crushing of the nerves, the idea being to temporarily paralyze the nerve and during the paralytic period to train the antagonists more effectually to establish muscle balance for proper control of the joints.

While over-correction following resection of too large a portion of nerve is entirely possible, this seems to be a rare occurrence. Resection of an insufficient portion and incomplete correction has been recorded more often. Over-correction, of course, may result from simple tenotomy after injudicious lengthening of a tendon. For this reason an open tenoplasty in spastic paralysis is preferable to simple closed tenotomy to prevent extreme retraction of the cut ends of the tendon of the spastic muscle and non-union. The latter would result in deformity in the opposite direction. In a spastic equinus this is a very serious mishap, since a calcaneus deformity resulting in

a heel walk is much more disabling than the spastic equinus.

Aside from the above remedial measures, recourse to tendon transplantation is sometimes necessary. Thus the flexor carpi ulnaris and radialis may be transplanted to the dorsum of the wrist to overcome spastic wrist flexion and in the forearm the pronator radii teres may be converted into a supinator after the method of Tubby for spastic pronation of the forearm.

Contra-indications to any of these more radical procedures are marked athetosis, also spasticity so diffuse and inconstant that no particular group may be considered as dominating the picture, and marked mental impairment rendering the patient unable to cooperate in the tedious after-treatment or unable to utilize possible improvement in locomotion.

In this connection due allowance must be made for the rather remarkable mental improvement sometimes accompanying improvement in locomotion. It is just as though the child's mind formerly engrossed in combating ungovernable trunk and extremities is now freed from this burden and ready to receive and act more coordinately on the incoming sensory stimuli.

A rigid course of after-treatment is absolutely essential to success, no matter what surgical measures are employed and this point is emphasized by all as the crucial point in every method. This is best carried out under supervision of a trained personnel able to give the children sufficient time and to instruct the parents in the use of simple apparatus in the home. Walking bars, pendulum exercises, obstacle walking and a number of other devices and above all, infinite patience on the part of both physician and trainer are essential.

As to prophylaxis, much may be done by the obstetricians to prevent the development of these deplorable effects in the cases due to intra cranial hemorrhage in the new born. The need of careful pelvic measurements before delivery and substitution of Cesarean section for high forceps with their well known attendant dangers, should be emphasized. Sharpe urges careful examination of infants during the first days of life, especially in cases of difficult labor, for early signs of intracranial hemorrhage, and prompt decompression when necessary. Sharpe, Cushing and others have operated successfully on a considerable number of such infants. In view of

the distressing character of the late results of hemorrhage, early operation holds out the greatest hope.

Society Proceedings

ADAMS COUNTY

The meeting was called to order March 10, 1924, by the President, Dr. Warren Pearce. There was a total attendance of 49, and the attendance of the membership was the largest in at least five years or more, over 50 per cent of the membership of the society being present.

The minutes of the February meeting were read and approved. Considerable correspondence for the month was read. It was moved by Dr. C. D. Center that the letter pertaining to the Salvation Army Drive have the endorsement of the Adams County Medical Society and the recommendation that the individual members contribute to this worthy cause. Seconded and carried. It was moved by Dr. Williams that the letter from the Illinois Tuberculosis Association asking if the Adams County Medical Society members desired to receive an intensive day of instruction in the latest methods of diagnosis and treatment of tuberculosis be accepted. Seconded and carried.

Dr. Stevenson called the attention of the Society to the fact that a Dr. J. Tully Snyder had been practicing in the neighborhood of Liberty for the past five or six years without a license. He made a motion that a committee of three be appointed to investigate this matter and to have full power to report same to the State's Attorney's office or other state officials as it sees fit. Seconded and carried. The chairman appointed Drs. McReynolds, Knox and W. E. Mercer to serve on this committee.

The Secretary called the attention of the members to the fact that next year the Adams County Medical Society would be 75 years old and that the Illinois State Medical Society also would be 75 years old and therefore it would be fitting if the State Society held its 1925 convention in Quincy. He made a motion that a committee of three be appointed to investigate the feasibility of holding the Illinois State Medical Society convention in Quincy in 1925 and to report at the next meeting. Seconded and carried. The Chair appointed Drs. Swanberg, Koch and Stevenson to serve on this committee.

The Secretary then called the attention of the members to the fact that we should endeavor to get every eligible physician to membership in the Adams County Medical Society. A list of physicians in the County not members of the Society was read. The Secretary also emphasized the importance of attendance of members at the meetings and also presented an attendance chart that was to be kept at the meeting place to show the attendance.

Drs. J. H. Pittmann and E. G. Hedrick were dropped from membership in the Society by the President for

non-payment of dues for 1922 and 1923.

The applications of Drs. C. K. Gabriel, J. W. Blan and J. H. Bryant for membership in the Adams County Medical Society were read and turned over to the Board of Censors.

Following this we heard a splendid address on the "Symptomology and Treatment of Chronic Fatigue, Intoxication," by Dr. Edward H. Ochsner, of Chicago, President of the Illinois State Medical Society. The paper was discussed by Drs. Center, Jurgens and Cohen and closed by Dr. Ochsner. Dr. Williams made a motion that we extend a rising vote of thanks to Dr. Ochsner for coming to Quincy. Seconded and carried. Dr. Knox made a motion that Dr. Ochsner be made an honorary member of the Adams County Medical Society. Seconded and carried. The Secretary then extended an invitation to all the members and guests to come to his home to attend a reception to be given in honor of Dr. E. H. Ochsner. The meeting adjourned about 10:30 p. m.

(At 5:30 p. m. the members of the Society gave a dinner in honor of Dr. Ochsner at the Hotel Quincy. At the conclusion of same the doctor gave a talk on "Some Medical Economic Problems." Twenty-nine were in attendance.)

Dr. G. Wilse Robinson, of Kansas City, President of the Missouri State Medical Society, will address us at our next meeting on April 14, 1924.

HAROLD SWANBERG, M.D.,
Secretary.

COOK COUNTY CHICAGO MEDICAL SOCIETY

Regular Meeting March 5, 1924

The Tail of a Dog (10 min.)—G. B. Stephenson, Boy Scouts of America.

The Narcotic Problem.

Introductory Remarks—Martin M. Ritter, Chairman Propaganda Committee.

International Traffic in Opium—Mrs. Elizabeth Washburne Wright, Washington, D. C.

What We Believe to Be Facts Concerning Drug Addicts—Chas. E. Sceleth.

The Problem of the Drug Addict—Jos. L. Miller.

General Discussion.

Joint Meeting Chicago Medical Society and Chicago Society of Anaesthetists, March 12, 1924.

1. Lung Abscess Following General Anaesthesia—I. Pilot, University of Illinois.

Discussion—Frederick Tice, Edwin McGinnis.

2. Abdominal Rigidity Under General Anaesthesia—Arthur E. Guedel, Indianapolis, Ind.

Discussion.

3. Some Results of Operations Upon the Circulation: Their Significance and Treatment—E. I. McKesson, Toledo, O.

Discussion—Frances E. Haines.

Joint Meeting Chicago Medical Society and the Chicago Urological Society, March 19, 1924

1. Blocking Lymphatics in the Control of Cancer of

the Prostate Gland (Lantern Slides).—Robert H. Herbst.

2. Urologic Fads—Gustav Kolischer.

3. Diathermy in Urology, Including the Description of a New Technique for the Relief of Carcinoma of the Prostate—Budd C. Corbus.

Regular Meeting, March 26, 1924

Analysis of 515 Craniotomies, with Consideration of the Operative Results—Ernest Sachs, St. Louis, Mo.

Discussion—Allen B. Kanavel, M. L. Harris.

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting, February 19, 1923. President, Dr. Robert Von Der Heydt.

PAPILLOMA OF THE CARUNCLE

DR. CLARENCE LOEB reported the following case: Mr. A. G., aged 52, came February 1, 1923, with the following history: About 20 years ago, he suffered with tearing of the right eye, for which the upper canaliculus was slit, and the nasal duct probed. Ten years ago, he noticed a hardening on the upper lid. About one and a half years ago, a growth was removed from this eye. The patient, who is a very intelligent man, states that it was removed from the upper canaliculus, by one of the best oculists in St. Louis. It returned, however, about one month later. His present complaint is of a mass in the inner canthus of the right eye. There is no pain, but a constant tearing and some discharge. The lids stick together at night.

Examination showed a tumor mass in the right inner canthus, of about the size, shape and surface appearance of a red raspberry. The photographs and drawing give a fairly good representation of its appearance. There was some secretion and lachrimation. The mass seemed to be composed of two parts. The lower part, about one-quarter of the entire mass, is definitely attached to the lower lid margin. The remaining portion occupies the inner canthus and extends into, or springs from, the slit upper canaliculus. The size of the tumor has caused an ectropion of the inner part of the lower lid margin. A diagnosis of papilloma of the caruncle and margin of the lid was made, and operation was advised, to be followed by X-ray treatment.

February 5th, operation under cocain anesthesia. As much as possible of the tumor was excised with the scissors, with comparatively little hemorrhage. It was definitely established that the main mass sprang from the caruncle and not from the lacrimal sac via the canaliculus. The treatment since then has consisted in simple cleansing and mercurochrome. On February 13th, a treatment with X-ray was given. Patient will receive additional treatments later, and will be presented later for comparison with his present condition.

The macroscopic examination is as follows: Pathologic diagnosis, epidermal papilloma. Gross: Several small pieces of tissue measuring $1 \times 1.2 \times 0.3$ cm. The surface is very finely papillary. It weighs about 49 milligrams.

Microscopically, the tissue sent for examination con-

sists of a papillary growth. The stroma of the papillae is composed of a dense hyalinized tissue, containing numerous small thin walled blood vessels. The epithelium surrounding the stroma is composed of many layers of squamous epithelium which is well differentiated, but does not apparently invade the underlying stroma. There is no definite evidence of malignancy.

THE USE OF THE LARGE GULLSTRAND OPHTHALMOSCOPE IN UNDERGRADUATE TEACHING

DR. E. V. L. BROWN stated that in his opinion no eye department in the country had the material to properly teach undergraduate ophthalmology. For the past two years the Eye Department of the University of Illinois had made daily use of the large Gullstrand ophthalmoscope in its fundus teaching, and could recommend it most highly. Students doing routine eye laboratory work in an adjoining room were called into the dark room, one by one, and cases demonstrated. During a period of twenty minutes, one day last week, fifteen students each got a good look at a case of primary optic nerve atrophy and returned to their laboratory work with a loss of only three to five minutes each.

Experience had taught him to limit the use of the instrument largely to chronic cases, and for the undergraduate these should be the classical, clear cut, and uncomplicated ones, such as optic nerve atrophy, glaucomatous cupping of the disc, and disseminated choroiditis.

DISCUSSION

DR. HARRY S. GRADLE said that he had made a little improvement in the Gullstrand ophthalmoscope in the matter of fixation. A flexible arm is clamped to the upright of the instrument, and at the free end is a minute lamp, which merely glows but does not give sufficient light to cause pupillary contraction. The lamp may be moved in three directions. This is fixed upon by unobserved eye of the patient, thus maintaining better fixation of the eye under observation.

DR. ROBERT VON DER HEYDT stated that the Gullstrand new simplified ophthalmoscope might be attached to the slip lamp. This added equipment was very much less expensive than the original instrument. By the use of an added ocular two observers might see simultaneously. With the instrument, one could see the fundus magnified forty times, and if the pupil was dilated, might observe binocularly at a magnification of twenty times. Its use was invaluable in the study of the incipience of nerve head and macular changes.

CLINICAL USE OF DIFFERENTIAL PUPILLOSCOPE

DR. HARRY S. GRADLE stated that the differential pupilloscope devised by Hess some years ago was for the purpose of refinement in the diagnosis of various pupillary conditions.

The instrument consisted in a small nitra lamp which was attached to a rheostat. Rays from the lamp passed through a tube were reflected at right angles by a plane mirror. They then converged through the ocular, directly to the eye of the patient. Interposed between the light and eye of the patient were filters of fixed density, absorbing a known quantity of light. We might control the amount of light that went to the

eye of the patient by changing these fixed filters. Below them were two smoked wedges, with the smoke increasing from the apex of the wedge to the base of the wedge. If the two bases were together, the absorption was so great that no light passed through. At the apices there was no greater absorption than were the light passing through plain glass. The wedge was controlled by a small thumb screw, and the amount of absorption read off on an illuminated scale. There were the usual adjustments for accurate fixation, elevation, and so on. The method of using the instrument was described in detail.

Changes in the dioptric apparatus of the eye would not change the pupillary reaction in the slightest. There might be changes in the retina, the receptor apparatus, which would affect the pupillary reaction of the eye; but the changes would affect the motor discriminative acuity, that is, the pupillary reaction as one saw it and the visual discriminative acuity, the observation power of the patient, equally. The same held true of lesions which might affect the nerve up to the point where the pupillary fibers branched off.

When we passed on toward the optic cortex, a lesion at this point would affect the visual discriminative acuity, but would not affect the motor discriminative acuity. The pupil would respond to minute changes that the patient was not able to observe. On the other hand, after the pupillary fibers had left the optic nerve tract, any lesion from here on would affect the motor discriminative acuity, but would not affect the visual discriminative acuity. Thus we had a rather fine differential diagnostic point as to the location of lesions, depending on whether the motor or visual acuity was affected. Equally, the consensual reaction determined the function of that portion of the eye where the dioptric apparatus was impermeable to useful rays. In marked cases they might determine absolute sensitivity to such a degree, that we might say whether or not a patient might be operated on.

In using the instrument it was advisable to have the patient in a dark room, and allow two or three minutes of dark adaptation to take place. The motor discriminative acuity was measured, using a filter of second, third or fourth degree of absorption, depending on the activity of the pupil. The visual discriminative acuity might be measured at the same time, by having a response from the patient. That was translated into terms of absorption, and the result was expressed in a single figure—a quotient—and that quotient bore the relation of 9 to 10. Any variation from that magnitude was pathologic. Owing to the personal equation, one must allow for a certain degree of variation, and one might allow six-tenths variation; in other words, a quotient 0.84 was not pathologic, nor was a quotient of 0.96.

DISCUSSION

DR. ROBERT VON DER HEYDT said that since the advent of the slit lamp we had a more refined method of diagnosis in Argyll Robertson pupil. Dr. Feingold, of New Orleans, first drew attention to this method, at the St. Louis meeting of the American Medical Association in discussing Dr. Bedell's paper, namely, by throwing light on the iris and pupil with a slit lamp and turning the light on and off, we might discover very

minute degrees of reaction just observable by the microscope.

DR. GRADLE, in closing said with this instrument one obtained a magnified view of the pupil of six to eight diameters, which was more than was usually obtained from a bead loupe. The pupil was under good illumination and could be followed well. The illumination of the pupil was central and fell upon the six degree area around the fovea; whereas in examining the pupil with lateral illumination with the head loupe, it was difficult to bring the light sufficiently central to strike the foveal area. The minimum amount of light, only, was measured, which would cause any or complete contraction of the pupil. The entire pupil was under observation. In cases where there were extensive posterior adhesions, one might measure the pupillary reaction by a small amount of contractility of the pupil which might remain in one sector, and the result would be more accurate than by the crude methods at our disposal.

As to the value of this instrument a refinement in our armamentarium and gave us a method of measuring a minimum of light that produced pupillary reaction. That minimum amount of light sometimes was not dependent on any condition of the dioptric apparatus of the eye. From his own limited experience, and from the far greater experience of Hess and others who had worked with the instrument, he maintained that the Argyll Robertson pupil could be diagnosed far earlier by this instrument than could be done by the ordinary means at our command.

BRAIN TUMORS WITH SPECIMENS

DR. EMANUEL B. FINK stated that the first specimen belonged to a case reported before the Society at its December meeting, held at the Cook County Hospital. It was a classical tumor of the anterior lobe of the hypophysis, with bitemporal hemianopsia, and a rather late appearance of beginning choked disc. At that time, he demonstrated this specimen before it had been hardened and sectioned, and it was seen that the optic chiasm was completely destroyed, with destruction of the floor of the third ventricle and infiltration of the tumor, extending anteriorly almost to the frontal lobe. After hardening, the specimen was sectioned, and now showed a very interesting infiltration anteriorly and posteriorly. Beginning in the floor of the third ventricle, in the first section below the optic chiasm, was to be seen infiltration of the tumor anteriorly almost to the floor of the lateral ventricle. The tumor mass consisted of a hemorrhagic, infiltrating carcinoma, not infiltrating the tissues themselves, but pushing the lining of the lateral ventricle ahead of it.

A very interesting thing was that the tumor mass did not involve any of the basal ganglia. The man's only complaint was disturbance of vision due to bitemporal hemianopsia and headache.

The second case was that of a young woman, 21 years of age, who entered the Cook County Hospital Service of Dr. Suker. She had been previously seen at the Postgraduate Hospital, where a diagnosis was made. She complained chiefly of blindness, attacks of dizziness, and peculiar headache. All the symptoms dated back six months. The headaches were of the occipital type, and radiated from the occiput toward the anterior portion of the head; otherwise she had no general complaints. This young woman had a goiter operation at the age of sixteen.

Physical examination showed a rather slenderly built white woman, apparently not acutely ill. The main points in the examination were ophthalmoscopic. Vision

in the right eye was reduced to light perception only. With the left eye she could count fingers at a distance of eight inches. The pupils were widely dilated and completely rigid, not reacting to light or accommodation. Bilateral lenticular cataracts, probably congenital, were present. She was in the hospital only seven days, and died a few hours after spinal puncture. Examination of the spinal fluid was negative. There was a negative blood and spinal fluid Wassermann, and only about eight cells, all of them lymphocytes. In this connection he would emphasize the importance of care in making spinal puncture in conditions of increased intracranial pressure.

(To be Continued)

GREENE COUNTY

The Greene County Medical Society met in White Hall on Friday, March 14, 1924, in the city hall. Those in attendance included all the White Hall physicians and Drs. F. H. Russell of Eldred, H. Burns of Carrollton, C. O. Bulger of Greenfield, and H. W. Smith, C. R. Thomas, O. L. Edwards and N. J. Bucklin of Roodhouse. After dinner, served at the Staples & Thompson restaurant, adjournment was taken to the city hall for the program. Dr. Edwards read a well prepared paper on "Basal Metabolism." What is it? How determined? What significance? Metabolism is fundamental, a change taking place in the intimate condition of cells whereby their molecule becomes more complex or contains more force. Cells are continually being worn out, tissue waste, catabolism, or dissimulation, then we have anabolism, a synthetic or construction metabolism, the activity and repair of function. It may be the breathing of more air than is actually called for by the needs of the organism or to the metabolism of certain surplus proteid material which though inside of body, does not form a component part of any of the tissues, but constitutes a kind of reservoir of force upon which the organism can draw upon. Basal metabolism is the total heat production of an individual at complete rest. Thyroid secretion is a slow, steady regulator, acting as a draught on cell oxidation, the body surface area is used as a basis for standards, is proportionate to the protoplasmic mass, the blood volume and other vital factors. Basal is measured by heat, the output energy.

Dr. H. W. Smith read a paper on "Some Phases of Malaria" and presented the history of a woman suffering from cystitis, that was unquestionably of malarial origin. No other treatment availed until malarial treatment was instituted, and she immediately got well of her trouble.

Dr. H. Burns gave a talk on the training schools at Camp Custer, the great advantages offered to our young men by the government. Already several applications have been filed.

Even with road conditions very bad we had an attendance of 15.

W. T. KNOX, Secy.

Marriages

JAMES BLAIR DUNHAM to Miss Ida Burlingame, both of Wenona, Ill., February 22.

WILLIAM A. MALCOLM, Chicago, to Miss Ruth Ehrlicher of Pekin, Ill., February 28.

GEORGE L. PINNEY, Chicago, to Miss Sarah Elizabeth Boone of Warren, Ill., recently.

LAWRENCE HOWARD ROBLEE to Miss Beatrice Angela, both of Chicago, February 16.

HARRY H. SERED to Miss Lillian Helen Lyons, both of Chicago, February 17.

VIRGIL WIPPERN to Miss Florence Webster, both of Chicago, January 25.

Personals

Dr. H. Douglas Singer, Chicago, has been elected medical director of the Illinois Society for Mental Hygiene to succeed Dr. Ralph P. Truitt.

Dr. Edwin B. Godfrey has gone to Europe to do health work in the Balkans under the direction of the League of Nations. A campaign against typhus is under way.

Dr. Cecil T. Heidel has been appointed medical director of the Chicago Infant Welfare Society, succeeding the late Dr. Walter F. Winholt.

Dr. Daniel N. Eisendrath read a paper on "The Newer Developments in Urinary Surgery" before the Elgin Physicians' Club, Elgin, Ill., March 10.

Dr. and Mrs. Archibald Church have given \$100,000 to Northwestern University to endow a medical library.

Dr. Durward R. Jones, Chicago, will go to Rapid City, S. D., to develop a county health department under the auspices of the Rockefeller Foundation.

At a recent meeting of the Kane County Medical Society, Drs. Paul B. Magnuson and James Oliver of Chicago, gave illustrated lectures on "Fractures" and "Skin Diseases," respectively.

Dr. Herman L. Smith, Chicago, superintendent of the Michael Reese Hospital, gave an address on "Hospital Management and Costs" before the trustees of Lake-View Hospital, Danville, Ill., recently.

Harry Eugene Kelly has been appointed special assistant attorney in charge of litigation which concerns the medical laws of the state. Mr. Kelly has served the Chicago and Illinois medical societies as legal adviser for many years.

The president of the American Hospital Association, Dr. M. T. MacEachern; the retiring president, Asa S. Bacon, and the president-elect, E. S. Gilmore, are all residents of Chicago. In consideration of this, Hospital Management arranged for a "Three Presidents' Dinner" at the Hotel LaSalle, March 3, in honor of these officers.

Dr. Arthur J. Cramp, director of the propaganda department of the American Medical Association, was the guest of the Biology Club of Knox College, Galesburg, March 20, at a dinner in Seymour hall. After dinner he gave an address on "The Nostrum and Its Relation to Public Health."

Doctor and Mrs. A. B. Middleton of Pontiac have returned from their winter home in Clermont, Florida.

Doctor G. Henry Mundt and family of Chicago sailed March 29 for several months of travel and study in Europe.

Dr. Paul Magnuson of Chicago addressed the Kane County Medical Society, March 5, on "Fractures" and Dr. James Oliver gave an illustrated talk on "Skin Diseases."

Dr. Daniel Eisendrath of Chicago addressed the Elgin Physicians Club, March 10, on "Newer Aspects of Renal Surgery."

Dr. Edward Plant, president of Lehn & Fink, Inc., New York, has presented the Harriman Research Laboratory with the sum of \$3,000 for the year 1924, to be known as the "Plant Research Fund for Studies in Internal Medicine." This fund is to aid in the investigation of the effects of certain therapeutic agents, especially the endocrine glands. Dr. K. G. Falk has been placed in charge of this work by Dr. W. G. Lyle, director of the Harriman Research Laboratory.

News Notes

It was announced early in the month that the first milestone on the Medical project at the University of Chicago had been reached in the collection of \$5,300,000; the second milestone will bring the necessity for approximately an additional \$6,000,000; while \$3,000,000 is urgently needed at the present time for endowment to provide for increases in salary; and an additional \$6,000,000 is needed for expansion. Thus, the University's enlarged program calls for approximately \$15,000,000 endowment within the next year.

The election of Dr. Franklin C. McLean to a

professorship of medicine by the Board of Trustees was another one of the convocation day announcements. Mr. McLean, it is understood, will represent the Medical School in matters of organization and building.

The coming of Dr. McLean has made it possible to create a representative Committee of the Faculty on the Organization and Development of the Medical School. This committee is now at work on plans for the organization of the Faculty and for the new hospital and associated buildings which it is expected will be built on the Midway within the next two years, provided necessary funds are obtained as expected.

—The Marion Hospital, Marion, a new institution, located in the former Emma Jones Hospital building, has recently been opened.

—The contract has been let for a \$20,000 addition to the St. Anthony's Hospital, Effingham, including an operating room and sterilizing department.

—According to reports, Herbert C. Kane, an herb "doctor" of Champaign, was fined \$100 and costs and sentenced to thirty days in the county jail, March 8, for practicing medicine without a license.

—At a recent meeting of the Cook County Board of Supervisors arrangements were completed for the employment of a full-time county health officer, under whose direction it is planned to coordinate all public health service now being done in the county.

—The city council of Princeton has agreed with the state department of health to pay \$400 toward the salary of the medical director of the city venereal clinic and to provide the equipment and medicines used; \$1,200 a year is now available to maintain the clinic.

—The Roseland Community Hospital on Perry Avenue, Chicago, was formally opened to the public, March 8. The institution has a capacity of 101 beds. When the nurses' home is completed, the hospital will represent an investment of \$350,000.

—At the annual meeting of the Central Council for Nursing Education, March 7, Mrs. George W. Dixon of Chicago was elected chairman. This council sends speakers to schools and colleges to instruct pupils regarding nursing and to advocate nursing as a profession for girls.

—"Dr." Margaret Kadana, Cicero, is reported

to have been named in a true bill voted by the grand jury, March 7, in which she was charged with practicing medicine without a license. Kadana, it is alleged, advertised as a chiropractor and treated employees of several large manufacturing plants in Cicero.

—Mrs. Robert L. Rea, widow of Dr. Robert Laughlin Rea, for thirty years surgeon of the Pennsylvania Railroad, has given \$100,000 to Northwestern University Medical School for the establishment of a permanent professorship—the Robert Laughlin Rea chair in anatomy.

—At the one hundred and thirty-second convocation at the University of Chicago, March 18, President Burton announced a joint gift of \$1,400,000 from the Carnegie Institute, John D. Rockefeller, Jr., and the Friendship Fund endowed by Charles R. Crane. New building plans for the university ranging from a \$6,000,000 library unit to the construction of a cooperative apartment building for faculty members were discussed.

—Arrangements for the organization of a full-time county health unit in Sangamon County have been completed and Dr. Raymond V. Brokaw, who has been in charge of the Morgan County health department, has been employed as director. The funds will be provided by the city of Springfield and by the local health agencies, consisting largely of Red Cross chapters, in outlying districts. This plan provides for the coordination of all public health services now operating in the county and will extend over a period of two years. This brings the number of full-time county medical health officers in Illinois up to three, Morgan and Cook counties having the other two.

—The dedication of the new group of medical buildings of the Department of Public Welfare of the State of Illinois and the University of Illinois took place Thursday, March 6. Dr. William L. Noble, president of the board of trustees of the University of Illinois, presided. Addresses were given by the President of the American Medical Association, Dr. Ray Lyman Wilbur; Dr. Frederick G. Banting of the University of Toronto, Canada; Judge Chauncey H. Jenkins, and the governor of Illinois.

—The Metropolitan Life Insurance Company attribute the decline in the death rate from diabetes of 6.4 per cent. in 1923 among its policyholders to the use of insulin. During the three

preceding years there had been an increase in the rate of 28 per cent.

—Dr. Michael T. Naughton of Chicago is said to have been sentenced March 29 to five years in the Leavenworth penitentiary for violation of the Harrison anti-narcotic law. It is said that he dispensed more morphin to 21 patients in five months than was used by all the Cook County Hospital patients in one year.

—Dr. H. C. Young, Bloomfield, Iowa, desires the addresses of all graduates of Keokuk Medical College, and announces a reunion of all graduates, June 2 next, in Iowa City.

—Dr. J. H. Bacon of Peoria suggests that the finger prints of parents be recorded with the foot prints of the baby as now taken generally in hospitals. He also advocates that the prints be made on the birth certificates.

The third Beford lecture of the Pittsburgh College of Physicians will be given by Dr. Frank Smithlies, Chicago, professor of medicine, University of Illinois, April 24, 1924. The subject will be "The Origin and Development of Ethics in Medicine and Their Influence on Medical Practice."

In response to numerous inquiries, we are able to announce that the book on Christian Science to which a number of our readers contributed material, is soon to appear. The joint authors are Frederick Peabody of the Boston Bar, Woodbridge Riley, Professor of Philosophy in Vassar College, and Chas. E. Humiston, Professor of Surgery, College of Medicine, University of Illinois. These three *specialists* dissect and analyze Christian Science as it has never been done before.

Mr. Peabody is already well known as the author of "The Religio-Medical Masquerade." In the present volume he gives a thorough expose of the *inside* of this cult.

Professor Riley is one of our most capable writers on eccentric thought and his work in this field is widely read on both sides of the Atlantic. His seaching analysis of the plagiaristic pretensions of Mrs. Eddy will delight every one who appreciates finished logic. Professor Riley reveals the source of Mrs. Eddy's "discovery," and dissects the "faith" of this system of "mind healing" in a masterful manner.

Dr. Humiston shows the tragic consequences of relying upon Christian Science as a system of treating human ailments. His analysis of the

"cures" of Christian Science is very instructive, and his presentation of its *failures* is bound to arouse an unthinking public to the dangers of giving unbridled freedom to faddists and fanatics where human life is involved.

Deaths

JAY LATRELL ARMSTRONG, Chicago; College of Physicians and Surgeons, Chicago, 1904; aged 46, died, February 22.

FRANCIS C. CALDWELL, Chicago; College of Physicians and Surgeons, Chicago, 1883; aged 73; died, March 20, of asthma.

WILLIAM BLUFORD DALTON, Scottville, Ill.; Long Island College Hospital, Brooklyn, 1878; member of the Illinois State Medical Society; aged 85; died, March 7, of carcinoma of the intestine.

ALLEN CHANCELLOR EAKIN, Rockford, Ill.; Northwestern University Medical School, Chicago, 1894; on the staff of St. Anthony's Hospital, where he died, February 26, of cerebral hemorrhage, aged 56.

THOMAS LOGAN GRANAY, Alton, Ill.; Marion-Sims College of Medicine, St. Louis, 1892; member of the Illinois State Medical Society; aged 57; on the staff of the Alton State Hospital where he died suddenly, March 5, of cerebral hemorrhage.

JOHN W. HAMILTON, Bushnell, Ill.; State University of Iowa College of Medicine, Iowa City, 1883; Civil War veteran; aged 79; died, February 3, at St. Francis' Hospital, Macomb, of senility.

JAMES E. HEIDER, Chicago; Chicago College of Medicine and Surgery, 1916; aged 46; died, March 6, of chronic interstitial nephritis.

LADISLAV KNOP, Chicago; Bohemian University of Prague, Austria, 1898; aged 50; died, March 1, of heart disease.

JOHN JAMES MAHONEY, Chicago; Northwestern University Medical School, Chicago, 1903; a Fellow A. M. A.; formerly assistant city physician; member of the American Urological Association and the Chicago Urological Association; on the staff of the Cook County Hospital; aged 41; died, February 27, of pneumonia.

ANDREW EDWARD MILLER, Metropolis, Ill.; Medical College of Ohio, Cincinnati, 1900; a Fellow A. M. A.; formerly on the staff of the Walbright Hospital; aged 52; died, February 9, of myocarditis and nephritis.

JAMES HENRY PLECKER, Chicago; Rush Medical College, Chicago, 1887; Civil War veteran; aged 82; died, March 11, of carcinoma of the ear.

WILLIAM FUNK RITTENHOUSE, Chicago; College of Physicians and Surgeons, Chicago, 1886; member of the Illinois State Medical Society; aged 71; died, March 14, at the University Hospital, of myocarditis and acute articular rheumatism.

ERICH BENNO RUTHENBURG, Chicago; Rush Medical College, Chicago, 1890; on the staff of the Passavant Hospital; aged 53; died, March 10, of angina pectoris.

ISAAC OLIVER WILCOX, Panama, Ill.; Barnes Medical College, St. Louis, 1907; aged 39; died, February 27, following a long illness.

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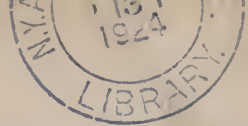
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Illinois Medical Journal

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ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

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State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6221 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Wm. D. Chapman, Silvis, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 7626 Bosworth Avenue, Chicago.

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Editorial

WHAT FOOLS WE DOCTORS BE

There is one thing about the medical profession that we ought to be ashamed of. It is that we are too gullible in the hands of experienced propagandists and self-seeking exploiters who roam about the world under the guise of uplift. Newspaper men and professional politicians, long ago found that the doctor would swallow most anything he saw printed. The fact that propaganda "got into type" in the doctor's estimation gives it the sanction of proof, and for this reason we have been the victims of every sort of deception. Yellow journalism and what passes for politics have established a vicious circle which has milled the medical profession so long, that it has become a humiliating joke.

Doctor, don't you ever feel humiliated or rather insulted at times at the estimate the uplifters (for revenue) and politician place on your mentality when he puts before you some of the fifty-seven varieties of deceit, lies and uplift propaganda that a ten-year child should detect, all the time he is trying to make you believe he or she is working for your interest?

SAY IT WITH VOTES

Some enterprising florist coined the phrase "Say it with flowers." That saying has been taken up throughout the country until now it is one of the best known advertising slogans extant.

What more attractive wording could be suggested? Saying it with flowers offers a medium for the expression of almost every sentiment—esteem, affection, reverence, sorrow. Not only has this slogan profited the florist financially, but it has increased the popular use of some of nature's choicest products, and has enhanced the esteem in which he is held as a purveyor of these products.

The medical profession has a similar condition to meet. We want to increase our prestige with the members of the Legislature. Let us, then,

adopt a similar slogan: "SAY IT WITH VOTES."

The time will soon be here when you can express your appreciation to those who will give us a square deal in the Assembly, as well as administer—in some instances—an effective rebuke to those who have proved false and have not been true to their word, to those who seek the office of senator or representative but have no regard for the health and physical welfare of the people. To all these you should *say it with votes*.

Don't forget that unless it is said with votes at the spring primaries and the fall elections, we may need the flowers to express our regrets. Don't be a "dead one."

THE AMERICAN MEDICAL ASSOCIATION MEETING

The seventy-fifth annual session of the American Medical Association convenes in Chicago, June 9-13, 1924. At this time the Association will be the guests of the Illinois State and Chicago Medical societies. The cooperation of all members is sought to make this, the diamond jubilee, the greatest meeting in the history of the medical profession of America.

All scientific meetings, registration bureaus and commercial exhibitions will be on the Municipal Pier. Diagnostic clinics for two days (Monday and Tuesday, June 9 and 10) will be given by men of national reputation. These will be at the Municipal Pier. There will be daily conferences on fresh pathological material, under the direction of well known pathologists. These conferences will be at the Municipal Pier. The scientific program is of excellent quality. The local committee is arranging for entertainments that will engage the attention of any non-scientifically inclined or who get surfeited at the pier. The theaters and summer gardens have attractive features. Above all, it is the time of year to make a break and get a rest before the hot weather rush is on. All are invited to Chicago, June 9-13.

ILLINOIS MEDICAL WOMEN ATTENTION

Will you not help make the American Medical Association meeting in Chicago one of the biggest of its kind; and since you are planning to be here June 10th, will you not arrange to be in Chicago Monday, June 9th, that you may

meet with the Medical Women's National Association and enjoy their splendid program? Monday night a program will be given in Fullerton Hall, the Art Institute, by medical women who have served in relief work during and after the great World War. Following the meeting there will be held a reception in the Art Galleries which you should not miss.

If you are not a member, will you not come and join the Medical Women's National Association? If you are a member, will you not show your loyalty by coming and bringing someone with you? Membership in the American Medical Association is a requisite for active membership in the Medical Women's National Association.

A survey of the Medical Directory of the state of Illinois records approximately 700 women physicians. Fifty are eclectics, 147 are from the homeopathic colleges, and 493 from the regular schools. Only 116 of the graduates from the regular colleges are reported as members of the American Medical Association.

You cannot afford to miss the advantages of being a member of your county society. You should not miss the educational advantages of the ILLINOIS MEDICAL JOURNAL, with its news from all over the state and county. Become a member of the A. M. A., receiving its weekly Journal which will keep you in touch with the medical advance of the world.

Come at any rate. We want to see you; and Chicago offers many attractions.

RACHEL HICKEY CARR,
Chairman, Women's Committee,
American Medical Association.

LENA K. SADLER,
Chairman, Women's Committee,
Medical Women's National Association.

MAKE A. M. A. HOTEL RESERVATIONS EARLY

Dr. Frank R. Morton, 25 East Washington Street, Chicago, is chairman of the committee on hotels for the Chicago session of the American Medical Association. The meeting is to be held June 9 to 13. Already several of the larger and centrally located hotels announced that their entire capacity has been reserved for the week of the convention. It would be well for those who expect to attend the session to make hotel reservations promptly.

PROHIBITING THE USE OF THE TERM DOCTOR

A bill was introduced at the present session of the New York legislature intended to curb the activity of quack healers. One of the most conspicuous provisions of the act is one which prohibits the use of the term "Doctor" or any abbreviation thereof in connection with any occupation or profession concerned with the health of the public, except that this is not to be construed to abridge the use of a degree conferred by a duly constituted institution authorized to confer it. Such a law would go far towards curbing the activity of quack healers whose chief stock in trade is their ability to advertise themselves, combined with the use of the word "Doctor."

UNITED STATES JUDGE EXONERATES DOCTOR OF FRAUD FOR THE TREAT- MENT OF PATIENT BY THE ABRAMS METHOD

In the United States District Court for the eastern district of Arkansas there was recently tried a case in which a doctor was charged of using the mails for the purpose of carrying on a fraud. It seems the doctor had offered to cure a woman of tuberclosis by the so-called Abrams electronic treatment. Judge Trieber directed a verdict in favor of the doctor and he, handing down his decision, used the following language: "A few years ago it would have appeared impossible that the time would come when people would converse with others thousands of miles away; it seemed incredible, yet it is now being done daily. When we read Bellamy's 'Looking Backward,' where he said by the use of some method still unknown people will be able to stay at their homes and listen to sermons at church, concerts and operas at the theatre, and hear them just as well as if they were in the room, we did not believe it possible. When we read years ago Jules Verne's 'Twenty Thousand Leagues Under the Sea,' we thought, just as we did of Bellamy's work, that he was either a man of fertile imagination or crazy; yet during the World War we have seen under-sea vessels come from Europe to America and return from America to Europe. Many other things seemed just as impossible at first. Who would have thought, twenty-five years ago, that it would be possible to have wireless

telegraph? All these things seemed impossible, yet now they are actual, existing facts.

"So, gentlemen, for a court and jury in a criminal proceeding to attempt to pass upon a question like this would be folly. We would be undertaking to settle questions on which the greatest scientists living seem to differ. For that reason, we are not going to pass upon them.

"Now we have heard, in addition to the physicians who have testified here of the absolute correct diagnoses which have been made by this process or invention, the scientific invention of Dr. Abrams, of the many cures effected, diseases which the greatest surgeons and physicians claim are at the present time incurable. That although millions are being spent annually for the purpose of discovering some means of curing such diseases as cancer, and other supposedly incurable diseases, it has been impossible to find such cures. In tubercular cases, it seems that the general treatment for the cure as was testified by Dr. Hughes, and which we almost daily hear of, is not medicine, but rest, good food, and a life out of doors, if possible in a dry climate, but always absolute rest and a strict diet. This is claimed to be the only cure known at present. On the other hand, this defendant and the physicians introduced in her behalf, claim that by the Abrams treatment this disease can be cured, using the treatment prepared and sold by him.

"In addition to that, a large number of persons have been introduced here as witnesses on the part of the defendant, who testified that they had suffered from certain diseases, and that by applying to the defendant they were cured by this treatment. No one has been introduced by the Government to show that any person treated by her has been defrauded, or that they found the treatment didn't benefit them. Although I want to say this to you, gentlemen, as some of the physicians here said, the treatment will not cure in every instance, nor will the physicians who administer that cure always be successful; yet we know, gentlemen, that the greatest surgeons and greatest physicians do not always cure their patients.

"The Court is still unconvinced of the great curative properties secured by this treatment, but there is not evidence here which, in the opinion of the Court, would justify a finding that this woman didn't actually and honestly

believe in the success of that treatment, or that she did in undertaking to treat people do it with the intention of defrauding them."

COURSE IN TUBERCULOSIS FOR PRACTITIONERS

During the summer quarter at Rush Medical College the regular course on tuberculosis is given to students. This course, as in former years, is open to physicians and advanced students in medicine. The course, consisting of lectures and clinics, is outlined as follows:

Beginning with the history of tuberculosis, continuing the study of the etiology, aetia of infection, heredity and predisposition, infection and contagion, immunology, histology, and pathology, we next take up a consideration of pulmonary tuberculosis, the symptomatology, diagnosis, prognosis and treatment. Particular attention is given to the physical examination by inspection, palpation, percussio, auscultation and roentgenology. The medical and surgical treatment of pulmonary tuberculosis will be fully considered, including heliotherapy, hydrotherapy, reconstructive or occupational therapy, etc. Tuberculosis in children and the various complications like tuberculosis and pleurisy, tuberculosis and pregnancy, tuberculosis of bones and joints, genito-urinary, skin, etc., are studied.

This course will be given every Wednesday and Saturday morning from 9 to 11 o'clock beginning Wednesday, June 18, continuing to Wednesday, August 27, inclusive. For particulars communicate with Rush Medical College, 1748 W. Harrison Street.

INSTRUCTION ON TUBERCULOSIS

On Monday, June 24 at the Quincy Chamber of Commerce there will be conducted an intensive one day post-graduate School of Instruction in Tuberculosis. The latest methods of the diagnosis and treatment of tuberculosis will be thoroughly explained by four eminent clinicians, Drs. J. W. Pettit and R. T. Pettit of Ottawa, Ill. Dr. G. T. Palmer of Springfield, Ill., and Dr. J. S. Pritchard of Battle Creek, Mich. The entire program is being conducted by the Illinois Tuberculosis Association under the auspices of the Adams County Medical Society.

The school will last all day, beginning about 9: A. M. and terminating at about 4:30 P. M.

Everything will be free, including luncheon at the Adams County Tuberculosis Sanitarium.

The Adams County Medical Society takes this opportunity to extend an invitation to you to spend Monday, June 24 in Quincy as our guests and to attend this Post-Graduate School of Instruction. We assure you of a hearty welcome and will do everything we can to make the meeting well worth your time to attend. More complete details of this course will appear in the June Bulletin of the Adams County Medical Society, which you will receive the last week in May.

Trusting that you will be able to avail yourself of this opportunity to receive new information in regard to one of the most common chronic diseases the general practitioner is called upon to treat, we are

Fraternally yours,

ADAMS COUNTY MEDICAL SOCIETY.

HAROLD SWANBERG, M. D.,

Secretary.

MEDICAL FILMS

The Society for Cinematographic Instruction in Medicine and Surgery, with headquarters at 105 West 73rd street, New York City, announces that, after two years' intensive experimentation with various cinematographic technicalities, it is now ready to proceed with its full program.

"It has been necessary to make a lengthy and accurate test of cameras and of various methods for filming, developing and printing of films, which procedure has consumed considerable time and money," James S. Edlin, M. D., President of the Society, states. "We now have in charge of our film production a man who has had many years' experience in the production and distribution of educational and pedagogical films, Mr. Samuel A. Bloch. Mr. Bloch organized the Educational Department for one of the most prominent film companies, and has produced educational and technical motion pictures independently. He is both an educator and a trained motion picture executive."

The Society is now ideally equipped. Dr. Edlin says, to produce films for the medical, surgical, dental, drug and allied professions, and invites correspondence from all those interested in membership in the Society, as well as those desirous of securing excellent and truthful motion pictures.

Among the cinemas already produced by the

Society are the following: A Study of the Motor Control of Gait and Posture, from the Neurological Division of the Montefiore Hospital, New York City, S. P. Goodhart, M. D., Director, and a study of Disease of the Nervous System, from the Neurological Division (Cornell College) of Bellevue Hospital, New York City, Foster Kennedy, M. D., visiting physician in charge, both produced under the direction of Walter M. Kraus, M. D.; Root Resection, Adolph Berger, D. D. S., Oral Surgeon, Vanderbilt Clinic, New York City; Presentation of Surgical Cases from the Hospital for the Ruptured and Crippled, New York City, under the direction of Charlton Wallace, M. D., Associate surgeon and chief of Clinic.

8. Anastomotic Circulation in Portal Obstruction.
WILLIAM S. THAYER, Baltimore.
9. Glaucoma.
WILLIAM CAMPBELL POSEY, Philadelphia.
10. Gallbladder and Maligancies of the Colon.
JOHN F. ERDMAN, New York.
11. Chronic Myocarditis.
HENRY A. CHRISTIAN, Boston.
12. Diagnosis and Indications for Treatment in Diseases of the Prostate.
HUGH H. YOUNG, Baltimore.
13. Diabetes.
ELLIOTT P. JOSLIN, Boston.
14. Orthopedic Clinic.
ROYAL WHITMAN, New York.

DOWN STATE WE DEFEATED SPRAGUE FOR SENATOR

Doctors, druggists, dentists, nurses and undertakers admit responsibility for the down state defeat of A. A. Sprague as democratic nominee for United States Senator.

By a ratio of approximately three to two Sprague was defeated outside of Cook County, or, otherwise, in the hundred downstate counties. That opposition to Sprague by the organizations named herein accomplished this defeat is the verdict of newspaper men and of politicians. Medical and allied professions were the only open opponents of Sprague's nomination save in Sangamon County, where the Teachers' Federation joined with us. Broadcasted over the state where 30,000 pieces of literature, telling the medical and allied professions to fight Sprague as a possible senator, because of his former connection with the notorious Public Health Institute of Chicago.

In Cook County, this justified campaign was less successful. For in Cook County we were obliged to cope with brace game methods of the regular organization. Every method of coercion known to astute politicians was resorted to, in order to effect delivery from the ward personnel. Information is whispered that free use was made of threats of dismissal from the municipal and other public payrolls that these organizations control, unless the precincts under their jurisdiction were delivered to the regular organization.

That these alleged threats proved effective seems manifest from analysis of returns from many precincts in Cook County. For instance one precinct went 280 for the organization to one for the opposition; several precincts registered 288 for the organization to six of the opposition.

Juggling in election returns would appear to be the handwriting on the wall, for several examples. Consider how, in one precinct the slate got 320 votes, while the opposition received only 14 votes, and *this maintained for every man on the ticket*, from national delegates alternates to the national convention, district delegates and right along down the line. Even a blind man can see open face jugglery, with half an eye!

Taking heart of grace from the down state returns the allied professions have a poignant example of

SUMMER MEETING FOR THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER, WILL BE HELD AT CHI- CAGO, ILLINOIS, TUESDAY, (JUNE 10th) A. M. A. WEEK.

The American Association for the study of goiter composed of surgeons, internists, pathologists, anesthetists and radiologists will hold their summer meeting at the Sherman Hotel, Chicago, Tuesday (June 10) of A. M. A. week.

A banquet will be held in the evening of the same day. The association has a good program arranged for all who wish to attend.

President, E. P. SLOAN, M. D.,
Bloomington, Illinois.
Secretary, J. D. MOCHELLE, M. D.,
Indianapolis, Indiana.

DIAGNOSTIC CLINICS

Diagnostic clinics will be held at the Municipal Pier on Monday and Tuesday, June 9-10. The first clinic on Monday will be at 10 a. m.; on Tuesday, at 9 a. m. The schedule submitted below is tentative and subject to change.

1. (a) Prevention of Diphtheria: Schick Test; Administration of Toxin-Antitoxin Mixture.
(b) Prevention of Scarlet Fever. Demonstration of Susceptibility, Immunization.
John McCormick Institute for Infectious Diseases, Chicago.
2. Skin Diseases. HOWARD FOX, New York.
3. Tumors of the Breast.
JABEZ N. JACKSON, Kansas City, Mo.
4. Classification, Diagnosis and Treatment of the Nephritides. MARTIN H. FISCHER, Cincinnati.
5. Infant Feeding. W. MCKIM MARRIOTT, St. Louis.
6. Endocrine Cases. WILLIAM ENGELBACH, St. Louis.
7. Stomach, Duodenum and Pelvic Cases.
JOHN B. DEEVER, Philadelphia.

what a power they seek to drain an oasis or two in the present nauseous quagmire of cheap politics. Standing shoulder to shoulder doctors, dentists, druggists, nurses and undertakers are a force to be reckoned with. Incisive, cohesive labor from these correlative guardians of the public health and welfare will eventuate into an impregnable power for the actual physical and material uplift of the citizenry of the United States. Analogous agencies having to do with health matters can find an organization of a quarter of a million individual centers of distributive influence. If this organization works coherently and loyally there will be no more legislation inimical to the public health placed upon the Statute Books of the country and a great deal of much handicapping lumber written there now will be repealed in short order. Best of all, in such an organization is tempered tool with which to combat the socialization schemes now prevalent in this country and cropping up like "Pusley" in every community in the land.

The sooner these allied professions and works awake to the fact that there is a fight on their hands right now to safeguard the health of the country from the insidious destruction of socialistic legislation, the quicker the situation can be cleaned up. This is not an hour when any man with a public conscience dare sit by his fireside and smoke, as the public busybodies have already stuffed that fireside with suffocating statutes written in the putrid ink of political graft. But one remedy exists and that is organization and definite ballot-box protest.

HOW ANNUAL REGISTRATION OF DOCTORS WORKS OUT

Connecticut has a medical population of 1,727 licensed physicians. The state has had an annual re-registration law for five years. The re-registration feature did nothing to purge that state of quack doctors and those holding fraudulent diplomas.

It remained for Harry T. Brundidge, a *St. Louis Star* reporter to show up the fallacy of annual re-registration of doctors; as the result of his exposé the licenses of 173 doctors were revoked in Connecticut.

WHY ILLINOIS DOCTORS OPPOSE ANNUAL RE-REGISTRATION

First. The principle is wrong; it savors of autocracy which latter is repulsive to American ideals.

Second. Because of unpleasant experience with the first Director of the Department of Education and Licensure, a layman and an autocrat of the most pronounced type, who no sooner discovered the autocratic powers that fell within the scope of his office than he attempted to put over a re-registration law one of the provisions of which read:

"In every proceeding under the provisions of this Act an averment that the defendant at the time of the alleged offense was without the required license or

certificate of renewal of registration shall be taken as true, unless disproved by the defendant. This paragraph would represent Bolshevism in action.

Third. A re-registration law would serve to beat practitioners into submission to those "wise social experiments" or into innocuousness by denying him the right to practice his profession.

Fourth. A re-registration law would act as a legislative club to beat the practitioners into submission to panelization or to render them innocuous by taking away their licenses under the police power of the State (*Dr. Dent vs. State of West Virginia*, 129 U. S. Reports, page 114, year 1889).

Fifth. It nullifies the license already granted a doctor to practice medicine in perpetuity and substitutes therefore a year to year license.

Sixth. The present registration in the County Clerk's Office is sufficient.

Seventh. The record of every doctor licensed to practice medicine in Illinois is on file in the Department of Education and Registration at Springfield.

Eighth. It is class legislation in that the profession is to be charged a fee to create a fund purging the State of illegal practitioners when as a matter of fact this duty devolves upon the State and not upon the medical profession. Ridding the State of illegal and incompetent practitioners is a measure purely in the interest of the people who should pay for it and not have it placed as an extra tax upon the medical profession.

Ninth. It is unnecessary as the police power already exists for the control of practitioners not duly licensed. More law is not needed but better enforcement of existing law is.

Tenth. It is demeaning to a great and noble profession in its requirements as to filing of photographs. Why not finger prints?

Eleventh. It will cause expense and inconvenience with no proportionate return to the public or to the profession.

Twelfth. It is a humiliating and absurd proposition, this annual re-registration and the fee of \$2.00 for the privilege of announcing to your beloved people, who have known you to be a Doctor for a score or more of years, that given life and health and the gracious permission of the clerk to whom you proffer your \$2.00 fee, you expect to continue to be a Doctor for the ensuing year.

CHIROPRACTOR CONVICTED OF MANSLAUGHTER—DISTRICT ATTORNEY HAS RENDERED A GREAT PUBLIC SERVICE—HE SHOWS WHAT THE LAW CAN DO TO A CHIROPRACTOR WHO, BLIND TO ESTABLISHED SCIENTIFIC FACTS, GAMBLER WITH HUMAN LIFE AND LOSES.

In the legal department of the *New York State Journal of Medicine* George W. Whiteside

reports the case of a chiropractor convicted of manslaughter. The following is the report:

Chiropractors who undertake by scientific principles to treat serious diseases which they are unable properly to diagnose need no longer expect to have their poor deluded patients die on their hands without suffering conviction of felony and imprisonment in state's prison.

A most salutary precedent has been established in Brooklyn by the conviction for manslaughter in the second degree of Ernest G. J. Meyer, a Palmer school graduate who treated a six year old child who had diphtheria, by adjusting the sixth cervical and the fourth and eleventh dorsal vertebrae.

A jury in the Supreme Court in Kings County, presided over by Justice William F. Hagarty, on April 8, 1924, returned a verdict of manslaughter in the second degree against Meyer after about thirty-five minutes deliberation. Manslaughter is a degree of homicide less than murder, not being justifiable or excusable, and in the second degree is committed without design to effect death "by any act, procurement or culpable negligence of any person." This crime is punishable by imprisonment in a state's prison not exceeding fifteen years or by a fine of not more than one thousand dollars, or by both. This conviction, the first in this state of its kind, was procured by the office of District Attorney Charles Dodd of Kings County with the aid of his assistants, George F. Palmer, Jr., and leading trial counsel, James I. Cuff. These able and unfaltering public servants have given evidence, not only of faithful public service in this case, but of unusual and original legal acumen in blazing a new path in criminal jurisprudence that should serve as a model throughout this state and which, if followed by other district attorneys, will give a protection to the public that is sorely needed.

To convict it was necessary for the District Attorney to prove that Meyer, by his acts of culpable negligence, had caused the death of the deceased.

Ernest G. J. Meyer, twenty-nine years of age, of good appearance and family, a graduate of a local high school in Brooklyn, completed a two-year course in the Palmer School of Chiropractic in 1921 and took up his practice in Brooklyn. He had close personal relations with the mother and father of the deceased, Caroline Germuth, a child of about five years of age, of 450, 41st Street, Brooklyn. During the early infancy of this child he had given it chiropractic adjustments of the spine from time to time to correct the hanging of the child's head over on one side. On December 13, 1923, little Caroline became sick during the night, was restless, had pain in the chest and evidences of fever. The following day, which was Friday, the defendant Meyer gave the child two chiropractic adjustments by pushing or adjusting the sixth cervical and the fourth and eleventh dorsal vertebrae. She was at that time so sick that he stated that he would come a third time that day. He did come again at which time the side of the neck of the child was visibly swollen and he continued the adjustments. The fol-

lowing day he made a visit in the morning and one at night, each time giving similar adjustments. The child was becoming progressively worse suffering from very labored breathing, in fact she was gasping for breath. The father of the child asked the defendant if he did not think it wise to call in a medical doctor and if the defendant thought that he could take proper care of the case. The defendant did not advise the calling in of a medical doctor and stated that he could take care of the case satisfactorily. During the day the swelling went down somewhat and on the following day, Sunday, the defendant called again. He said that the child was suffering from swollen tonsils and swollen glands and a stoppage of the nasal passages. By the afternoon of that day the child became unconscious and a neighbor who was present, suggested to the chiropractor that she thought the child had diphtheria. When the child was practically dead the defendant suggested calling a medical doctor. The father then called Dr. C. L. Dance who examined the child and found that it had a temperature of 104 degrees, membrane very much diffused so that it was practically impossible to examine the throat and the heart action so faint and rapid as to be hardly perceptible. Dr. Dance immediately gave 10,000 units of antitoxin by intramuscular injection in the buttocks and remained with the child until it died that evening.

As the death certificate states that the child had been under the care of an unlicensed practitioner prior to death, the health authorities sent a representative who took a culture of the throat of the deceased which showed the presence of Klebs-Löffler bacilli. Investigation by the health authorities disclosed that there were three other small children in the family who had been in contact with the deceased, one of whom had been sleeping with her while Meyer, the chiropractor was in attendance.

Dr. Moench of the Medical Examiner's office, made a post mortem examination and found indisputable evidence of death from pharyngeal diphtheria.

The case came to the attention of District Attorney Dodd shortly before Christmas and he received in his investigation little aid from the parents of the child. District Attorney Dodd realized that he could readily convict Meyer of the misdemeanor of practicing medicine without a license, but he did not feel that he was justified in letting this man off with a misdemeanor conviction when his act of culpable negligence had caused the girl's death. Although he had no precedent in this case to guide him, he had the case presented by his assistants, Mr. Palmer and Mr. Cuff, to the Grand Jury and asked for an indictment for manslaughter. Without delay the case was brought to trial in April by Assistant District Attorney Cuff. He proved the facts as above stated and called Dr. Joseph C. Regan, assistant resident physician of the Kingston Avenue Hospital for Contagious Diseases in Brooklyn, as the medical expert for the people. Through Dr. Regan it was shown that this child had suffered from diphtheria from December 12, when the defendant first saw her, and that Dr. Dance's treatment when he was called as the child was about to die was the proper

treatment in the case, and that the manipulations of the defendant and failure to administer antitoxin had permitted the toxins of the disease so to affect the child's nervous system and heart as to cause inevitable death. It was by this proof that the District Attorney contended that this chiropractor was guilty of culpable negligence in causing the death of the child.

The defense tried to absolve Meyer of responsibility for the child's death, and put forth the claim that the administration of the antitoxin had caused death from shock, and offered as a medical witness to support this theory a Dr. Frank R. Weston of LaCrosse, Wisconsin, who stated that he had graduated from the Rush Medical College of Chicago in 1894.

He testified in part, as follows:

Direct Examination by Mr. Morris:

Q. Is there any distinctive symptoms by which diphtheria can be recognized? A. No, sir.

Q. By observation or what is spoken of as a clinical examination? A. No, sir.

* * *

Q. Now, in reference to the throat itself, what are some of the observable symptoms? A. Generally a membrane on the fauces of the throat, or on the tonsil.

* * *

Q. Now, take the enlargement of the throat, swelling of the throat or neck. You have heard the testimony in this case? A. Yes, sir.

* * *

Q. Is there anything distinctive about that? A. No, sir.

* * *

Q. Then there would be nothing typical about that or distinctive about that in any way to indicate the presence of diphtheria? A. Na, sir.

Q. Is it possible, in your opinion, for a person to have diphtheria, a child to have diphtheria and die of it without its being recognized by a physician of average skill? A. Yes, sir.

* * *

Q. Now, if it (antitoxin) is injected into the muscles and given late, then what would you expect as the result? A. I would not expect much of a result because it takes twenty-four hours to be effective, if it is injected into the muscles.

* * *

Cross-examination by Mr. Cuff:

Q. What text writers are you familiar with? A. Stevens.

* * *

Q. Oh, that is a general subject or book covering a lot of things? A. Yes, sir.

* * *

Q. Now, you want to tell or convey to this jury the impression that the administration of this injection of antitoxin intramuscularly was really what might have caused the death of this child? A. It might be in its weakened condition.

Q. In half an hour? A. Yes.

Q. Now, let us see; how many times have you administered antitoxin? A. Oh, probably 40 or 50 times.

Q. How long is it since you administered antitoxin? A. Ten years.

* * *

Q. How many times have you testified in these chiropractic cases? A. Oh, probably four or five times.

* * *

Q. When was the last time you testified? A. I think I was in Salt Lake City in February.

* * *

Q. When before that did you testify for the last time? A. I think in St. Paul, Minnesota, in May of last year.

* * *

Q. You are being paid? A. I expect to be paid.

Q. You have been paid in the past? A. Yes, sir.

* * *

Q. Back in the spring of 1923 you testified in Jackson, Michigan. When before that did you testify for the chiropractors? A. I have in South Bend, Indiana, but I don't remember when it was.

Q. And before that where? A. In El Paso, Texas.

* * *

The defense then endeavored to justify the treatment on chiropractic principles and offered as an expert witness a national lecturer of the Universal Chiropractic Association, James G. Greggerson, who testified that the treatment given by the defendant of adjusting the spine was proper chiropractic treatment for the condition. Cross-examination developed that this witness had been a private in the army and in civil life had been a salesman, had no education beyond a common school course and had completed a fourteen months course in the Palmer School of Chiropractic and that according to chiropractic principles it was not necessary to know what the matter was with a patient in order to give treatment.

* * *

Cross-examination by Mr. Cuff:

Q. Mr. Greggerson, of course it is not material, in your estimation of this situation, that Mr. Meyer did not know what the trouble with the child was, is it? A. No, sir.

Q. And yet in the face of the fact that Mr. Meyer said that he did not know, and never knew until after the death of the child, that the child had diphtheria, you still say that your answer does not consider that of any moment? A. Yes, sir.

Q. You are in the pay of the Chiropractors' Association, are you not? A. Yes, sir.

Q. And you travel all around the country lecturing and testifying for them, don't you? A. Well, I travel around the country lecturing for them.

Q. And testifying? A. I have been on the stand before.

Q. You get your vacations at their expense, too, don't you? A. No, sir, this is my regular job—lecturing.

Q. Now you are lecturing for this association under salary? A. Yes, sir.

* * *

The defendant, testifying in his own behalf, admitted that he did not know what the matter was with the child while he was treating her; that it was not necessary to know that in order to give chiropractic treatment; that diagnosis was not a necessary element upon which to predicate proper chiropractic treatment. ERNEST G. J. MEYER:

Direct Examination by Mr. Morris:

Q. What did you observe and what did you do when you were called there? A. I observed that the child was in a sick condition, and I made a digital examination of the spine.

Q. What did that examination of the spine disclose to you? A. It disclosed that the sixth cervical vertebrae, the fourth dorsal vertebrae and the eleventh dorsal vertebrae were out of alignment, causing pressure.

* * *

Q. After you made that examination, what did you do? A. I directed the mother to prepare the child for adjustment, put the child on the bench—the chiropractic adjusting bench—and proceeded to adjust the misaligned segments into normal position.

* * *

Cross-examination by Mr. Cuff:

Q. Did you know that the child had diphtheria? A. I didn't recognize it as diphtheria.

Q. You never knew, at any time during your treatment of the child, that it had diphtheria? A. No.

Q. And your system did not indicate to you that it had diphtheria, did it? A. I will say no.

Q. Mr. Meyer, do you realize that one of the primary and absolutely necessary essentials to the care of an ailment is the correct determination of what the ailment is? A. No.

* * *

Q. So that you do not need to know what the trouble is in order to cure it? A. We have the symptoms to go by.

Q. Will you answer that question specifically? A. No.

* * *

It may be said that this case was fairly won on the merits and that, while the child died shortly before Christmas and on Christmas day the mother had spent her time in visiting the child's grave, Mr. Cuff in summing up for the District Attorney ignored this appeal of sympathy and presented his case on the broad principles of justice and called upon the jury to perform their sworn duty to decide the guilt or innocence of the defendant according to law, citing the law as laid down in our Appellate Courts as well as in the

United States Supreme Court, holding that few professions require more careful preparation by one who seeks to enter it than that of medicine, and that it has been the practice since time immemorial in this regard to exact a certain degree of skill and learning upon which the community may confidently rely, and that no one has the right to practice medicine without having the necessary qualifications of learning and skill; and that the statute requires that whoever assumes, by offering to the community his services as a physician, that he possesses such learning and skill, must present evidence that he has a certificate or license from the state qualifying him to practice.

The issue was squarely raised, therefore, that the defendant in the treatment by chiropractic methods in this case was practicing medicine; that he was not licensed so to do, and that through his lack of qualification, and unlawful assumption of authority to treat the sick, was guilty of culpable negligence resulting in death.

Justice William F. Hagarty, in charging the jury, charged directly that the acts admitted by the defendant in the treatment of the child constituted the practice of medicine, and as the defendant was not licensed such practice was in violation of the law, and submitted to the jury three main propositions for consideration. First, did the deceased child have diphtheria; second, was the defendant guilty of negligence in any respect, and third, whether his negligence was the competent proximate producing cause of the child's death, and that all three of these elements must first be found in the affirmative by the jury beyond a reasonable doubt before they could find the defendant guilty.

The defendant had a fair trial by the court and was given every opportunity by the District Attorney to absolve himself from criminal responsibility, and the case was decided not upon extraneous or sympathetic grounds, but upon the law and the evidence. It may well be said that in this result District Attorney Dodd and his able assistants, particularly the trial counsel, Mr. Cuff, have rendered a great public service.

This case clearly proves that the Universal Chiropractic Association, a national body of chiropractors, lends its support by furnishing counsel and witnesses to aid its members, who admit they are violators of our health laws, to defeat the efforts of our prosecutors in the enforcement of the law for the safety and health of the community. This combination should not be permitted to carry on such efforts in this state.

One efficient and zealous district attorney has shown what the law can do to the chiropractor who, blind to established scientific facts, gambles with human life and loses.

Enforcement of the public health law against unlicensed practitioners throughout the state will effectively stop this gamble with the lives of its people. Every district attorney in this state is now confronted with a duty in this matter to protect the community by the exercise of the power which the law gives.

G. W. W.

WHERE THE INSPIRATION FOR SHEPARD-TOWNER LEGISLATION ORIGINATED. MME. KOLONTAI HEAD OF THE DEPARTMENT OF RUSSIA'S CHILD WELFARE. THE SOVIET GOVERNMENT ADMITS THE NATIONALIZATION OF CHILDREN IS A FAILURE.

John Clayton, *Chicago Tribune* foreign news service, in the March 30, 1924, issue of the *Chicago Tribune*, says:

800,000 SOVIET CHILDREN MADE DRINK VICTIMS

NATIONALIZATION TAINTS AND KILLS TOTS

BERLIN, March 29.—Eight hundred thousand Russian children of 5 to 15 years are homeless, starving, and debauched, having been dragged down to a hell on earth by the soviet government's nationalization of children policy inaugurated four years ago at Moscow.

Out of the plan for the state to house, train, and develop the youth of Russia has come a terrible condition of debauchery, drunkenness, prostitution theft, highway robbery, and even murder.

Ten thousand of these children have contracted venereal diseases before reaching the age of 15. Sixty per cent are alcoholics, many are dope fiends, and all are underdeveloped, warped and physically and morally ruined for any further usefulness to the state.

SOVIET'S OWN REPORT

From Moscow *The Tribune* learns that 2,347 cases of venereal diseases were found among beggar girls of 10 to 14 years during the month of February alone. At a conference to consider the conditions of these children, the widow of Lenin admitted that during February in Petrograd alone 1,200 children were found in the street dead from starvation and cold.

These conditions were disclosed by an official investigation conducted by the soviet government.

Four years ago the soviet government embarked its policy of state homes for all children. At the inauguration, Mme. Kolontai, mistress of the notorious sailor-bolshevik leader, Mebenko, who recently was made soviet minister to Norway, was named head of the department of child welfare.

In the first interview she granted in her new capacity she told me of her plans for the future. Her dream (it could only have been the dream of a woman to whom children who accidentally resulted from carelessness in the sex life of men and women were a nuisance) was that the state should care for all children, house them, train them in communistic ideals, and permit their parents to see them once a month if they desired.

THOUSANDS TURNED INTO STREETS

During the period of the famine, several hundred thousand children were taken from their parents and placed in government homes in various Russian cities. When funds ran low the soviets, with their usual

cynicism, turned them into the streets to beg, starve, or steal. These children were joined by others who had lost their parents through civil war, execution, or famine until the huge total of today was reached.

They have died in hosts from dysentery, cholera, and starvation. Their little lifeless bodies have been found frozen to death in freight cars, packing cases, and market baskets, or in the doorways of governmental buildings throughout Russia. The soviet authorities admit that 6,000 of them were frozen to death in Moscow and Petrograd alone last winter.

Dr. Rathmer, a member of the investigating committee, told government officials who have at last decided that for the good of the party conditions must be remedied, that more than 450,000 of the "nationalized" children were addicted to the use of alcohol, and a large percentage snuffed cocaine.

"Young girls of 9 have become prostitutes and boys that young pederasts," wrote Dr. Rathmer in his report. "All need medical help. Children 12 years of age whom we examined have the bodies of normal children of 6 or 7. We estimate that 90,000 are ill with syphilis or other venereal diseases. We cannot bring these children into soviet homes. They are in such a diseased condition that they would create a danger to the healthy children in the homes."

NOTE:—For a long time the ILLINOIS MEDICAL JOURNAL unaided fought the adoption of the Russian maternity system of Madam Kolontai in this country, a scheme that was widely heralded and ingeniously advocated and propagandized at the tax payers' expense by the Children's Bureau in Washington. In our issue of January, 1923, we had the following comment:

The Children's Bureau, which is to have large sums annually from the Federal treasury for propaganda purposes, if the bill passes, has already issued a booklet at the expense of the tax payers, "Maternity Benefit Systems in Certain Foreign Countries" which is socialistic and bolshevistic in almost every line. This book gives unqualified endorsement to a socialists' book by Madam Kolontai, a Russian woman in the pay of Germany, who is "commissar of Public Welfare" under Lenin (see documents 1 and 7 issued by United States Bureau of Public Information, September, 1918). The work of her department, in taking children away from their parents and herding them together in the "care" of the soviet government, has had such disastrous results, notably with little girls, that it has been characterized by a distinguished Russian, Professor Boris Sokoloff, as a crime which knows no parallel in the history of the world. They have destroyed morally as well as physically a whole Russian generation. Sir Paul Dukes says, that the central tragedy of Russia today is the results of Bolshevist corruption of children under Madam Kolontai's "welfare" and "maternity" system and finally it is to these dream book artists in the guise of uplifters who are always trying to enact laws like

the Russian system alluded to that we are expected to turn over the practice of medicine as well as the care, control and ownership of our American children. O Tempora. O Mores.

A DOCTOR IN 57 DAYS

Harry T. Brundidge, a reporter on the *St. Louis Star*, the man who exposed the quack diploma mill in *Collier's Weekly*, April 25, 1924, tells about the working of the bogus diploma mills scheme. The following paragraph is typical of the article in general and is reproduced for educational purposes:

Sutcliffe recently sat in the executive chamber of the State capital at Hartford and confessed to Governor Charles A. Templeton and this writer that he was a "mill-made doctor." He told how he bought his diploma falsely attesting graduation from high school and how he also bought two medical diplomas and a license to practice medicine in Connecticut. He has since been convicted of manslaughter.

I know of many similar tragedies. There will be others. Until the diploma mill ring is smashed and the last quack deprived of his purchased sheepskin, the technical phraseology of death certificates will continue hiding the awful blunders of quack doctors.

Mechanics, drug clerks, actors, bartenders, grocer's clerks, street-car motormen, electricians, prize fighters, photographers—men and women from all walks of life—enter the mill, leave their money and come out doctors of medicine and masters of surgery. Think of calling to the bedside of your wife a man who abandoned his career as the driver of a laundry wagon to take up the practice of medicine.

Imagine yourself knowingly placing the life of a sick child in the hands of a sign painter who purchased his right to practice medicine from the diploma mill ring! Think of being treated by me—a newspaper reporter who became a doctor of medicine in fifty-seven days and a doctor of chiropractic in seventy-two hours.

My medical qualifications cost \$1,350, but the price of my pretty chiropractic diploma, together with charts, textbooks, a course of instruction, and a table upon which to wrench the spines of unfortunate victims, was but \$89.50.

FIFTY-NINE VARIETIES OF MEDICAL PRACTICE

THE HEALING ART

The following was taken from the *New York State Journal of Medicine* for February 22, 1924:

"How many different systems of health and of healing cults can you name? The *Brooklyn Eagle* of February 15, 1924, contains a list of fifty-nine different methods of medical practice and cures. This list had been compiled by Health Commissioner Frank J. Monaghan as the result of a request that citizens send him information and complaints about irregular med-

ical practitioners. Dr. Monaghan's list is as follows:

"Aero-therapy"	"Leonic" healers
"Astral" healers	Mental and spiritual healing
"Autothermy"	Medical gymnast
Beautifier establishments	Mechano-therapy
"Biodynamo-chromatic" therapy	"Naturopologist"
"Blood" specialists	"Natureopath"
Bone setters	"Neuro-therapy"
Cancer "cures"	"Naprapath"
"Chromo-therapy"	Optical institutes
"Christos" (blood washers)	Obesity curers
Christian Science	"Psycho-analyst"
"Chromopathy"	Patent medicine men
Couéists	"Photo-therapy"
Diet-therapy	Physical culture
Diathermy	"Physio-therapy"
"Drugless healers"	"Psycho-therapy"
Electro-therapy	"Practo-therapy"
Electrotonic methods	"Quartz-therapy"
Electric light diagnosis	"Spondylo-therapy"
"Electryonic" methods	"Sani-practor"
"Electro-homeopathy"	"Spectrochrome"
"Electronapro-therapy"	Special food faddists
"Geo-therapy"	Special drug faddists
Hypnotist	"Spectro-therapy"
Hydro-therapy	"Tropho-therapy"
Herbalist	"Telathermy"
Helio-therapy	Vacuum and serum "cures"
"Irido-therapy" diagnosticians	"Vitopath"
Kneipp cure	"Zodiac-therapy"
	"Zonet-therapy"

"This list does not include chiropractic or new thought. It also totally ignores the old grandmother remedies, and the jumbled advice given by practical nurses, which lack only classification and advertising to be raised into the dignity of cults."

WHEN PREPARING PAPERS FOR PUBLICATION IN THE ILLINOIS MEDICAL JOURNAL OBSERVE THE FOLLOWING:

It is expressly understood that articles contributed to the ILLINOIS MEDICAL JOURNAL have not been and, if accepted, will not be offered to another journal for prior or simultaneous publication; no objection can be raised for the subsequent reproduction of any of them. Although it is believed that reprinting or simultaneous reproduction of papers in readily accessible journals in a given field is professionally unnecessary, bibliographically undesirable and economically wasteful, however, if a contributor has a paper printed elsewhere subsequently to its appearance in the ILLINOIS MEDICAL JOURNAL (excepting a volume of society transactions), due credit shall be given for original publication. The editor relies upon all contributors to conform to this rule.

Manuscripts should be typewritten, preferably double spaced, and only clear verified copies presented. The name and address of the author should appear under title of the paper. Literature cited should be assembled

at the end of a manuscript in numerical order and should be numbered serially. These bibliographic items in the list should be referred to in the text by numerals in parentheses corresponding with the sequence numerals in the list. Each item in this reference list should consist (in this order) of the (a) numeral indicating its sequence in the list, (b) name of the author, (c) year of publication, (d) exact title of the paper (or book) referred to, (e) full title of the periodical containing the paper, (f) volume numeral for that periodical, and (g) numeral for the first page (or page specially cited) of the paper.

All illustrations should be submitted in such forms as to admit of photographic reproduction without retouching or redrawing. Marginal letters cannot always be set in type and should, therefore, be written in India ink and regarded as parts of the original illustrations; or, in doubtful cases, the marginal lettering may be inserted temporarily, with lead pencil, for suitable attention by the editor. Unless specific instructions are given by authors, the printer will be requested to determine the degree of reduction that may most suitably be applied in illustration. Reproduction of illustrations can be effected most satisfactorily, as a rule, when the originals are large enough to permit of considerable reduction in the plates prepared from them.

SUGGESTED DIRECTIONS FOR PREPARATION OF AUTHORS' ABSTRACTS

J. R. SCHRAMM, M. D.
National Research Council

Authors' abstracts published with articles should fulfill at least two important functions:

1. They should enable readers to determine quickly and accurately what is contained in the corresponding articles.
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F. A. Wiley	Earlville
J. E. Walton	Alton
J. F. Wilson	Versailles
Perry H. Wessel	Moline
Peter H. Wessel	Moline
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E. Windmueller	Woodstock
G. T. Weber	Olney
J. A. Weber	Olney
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J. C. Weber	Olney
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Rhoda Galloway Yolton	Bloomington
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Note—Will County Medical Society contributed \$350.00 to the fund. Rock Island County Medical Society contributed \$100.00 to the fund. Kankakee County Madison County, Winnebago County, Whiteside County, Tazewell County and the Tri-City Medical Society also contributed. These seven organizations have contributed to the fund.

The proposed campaign cannot be prosecuted without funds; it must be supported by popular subscription. It is hoped that every doctor will subscribe to this worthy cause. Serious disease diverted from the incompetent will result in the saving of thousands of lives and will prevent much permanent invalidism.

This campaign will achieve two great objectives: A gradual, but ultimate restoration of the medical

profession to its merited place in the public sympathy and confidence and the inestimable benefits to humanity through the consequent prevention of disease and the preservation of life.

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MAKE CHECKS PAYABLE TO THE ILLINOIS STATE MEDICAL SOCIETY.

Name.....M. D.
Street
City..... County.....

Sign the above pledge card, make out a check payable to the Illinois State Medical Society and mail both in an envelope addressed as follows:

From

.....
.....
.....

ILLINOIS STATE MEDICAL SOCIETY,

c/o Cashier, Broadway National Bank,
6371 Broadway, Chicago, Ill.

25 E. Washington St.,
Chicago, Ill.

Lay Publicity Committee.

CHICAGO MEDICAL SOCIETY SUBSCRIBERS TO THE LAY EDUCATIONAL FUND OF THE ILLINOIS STATE MEDICAL SOCIETY

The list has been carefully checked to make sure of accuracy. If an error has crept in, kindly note same and forward to the Committee.

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the preservation of life.

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Name.....M. D.

Street

City..... County.....

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From

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c/o Cashier, Broadway National Bank,

6371 Broadway, Chicago, Ill.

25 E. Washington St.,

Chicago, Ill.

Lay Public Committee.

Correspondence

A VOICE CRYING IN THE WILDERNESS.
 BOLSHEVISM A MENACE TO MEDICAL
 SERVICE

Gibson City, Illinois,

To the Editor:

April 17, 1924.

I have been reading with interest the editorials which have appeared from time to time in the ILLINOIS MEDICAL JOURNAL during the last few years, relative to State Medicine, bolshevism and allied topics in your attempt to show their dangers to the future so far as they apply to the inferior medical service in store for the people of America under the systems mentioned.

The proposed campaign cannot be prosecuted without funds; it must be supported by popular subscription. It is hoped that every doctor will subscribe to this worthy cause. Serious disease diverted from the incompetent will result in the saving of thousands of lives and will prevent much permanent invalidism.

This campaign will achieve two great objectives: A gradual, but ultimate restoration of the medical profession to its merited place in the public sympathy and confidence and the inestimable benefits to humanity through the consequent prevention of disease and

While I agreed, in the main, with the spirit of antagonism to these socialistic documents, which your editorial so forcefully expressed, yet I felt that perhaps the actual menace was somewhat over-emphasized and that, after all, you were just "seeing things at night."

More recently, however, I have come to the conclusion that you are, in reality, "a voice crying in the wilderness" not only for the medical profession but for all one hundred per cent American citizens, as well.

So far as our own local society is concerned, I am proud to report that one of our members, who is fully awake to the situation, is now a member of the state legislature and has been found on the right side of questions that concern the welfare of the organized profession. We are also supporting a neighboring county society which is actively opposing a candidate who is believed to favor socialistic theories of government.

Let anyone who is skeptical that Bolshevistic propaganda is actually being broadcasted in America, read the leading article in the March fifteenth issue of the *Dearborn Independent*, entitled, "Are Women's Clubs being used by Bolsheviks?" Here is beautifully demonstrated the process of "boring from within" which first showed its ugly head among the labor unions and is now attempting to lead the various women's organizations into all sorts of undemocratic, unpatriotic and wholly discreditable positions.

The rank and file of most of these women's clubs are probably composed of high-minded, patriotic women with a sincere desire to do something worth while in the world. It is quite likely that they do not realize what it is all about. When they do, I imagine there will be a real house cleaning, beginning at the top in a good many of them. Witness the spectacle at Decatur last November, during the biennial convention of the "National Council of Women," when the accredited delegates from the "Women's International League of Peace and Freedom" refused to salute the flag of their country!

So, in conclusion, I would say, "Keep up the fight; you are not yet over-shooting the mark!"

Cordially yours,

ROBERT N. LANE, M. D.,
President Ford Co. Medical Society.

THE WORTHLESS ENGLISH PANEL SYSTEM

CORRESPONDENCE:

At Sea, April 1, 1924.

To the Editor:

You doubtless will be surprised to hear from me at this time, but because of a conversation with the ship surgeon today I cannot resist writing to you. Our talk was regarding the panel physician's work in England where he practiced but says he will never practice under the panel system again.

The doctor claimed that the men working under the English health insurance plan are deteriorating into cathartic giving, small wound dressing doctors.

When work should run about one per cent (official figures) it runs up from 4 to 10 per cent for the reason that the doctor is called for the most minor ailments and a thing a medical man ordinarily would not be expected to be consulted about. In busy times the demands on physician's time are so great that he becomes a mere machine and doing a very poor grade of work. Finally, the ship surgeon said, "If you desire to see the practice of medicine become obsolete place it under the supervision of the state for a few years and the failure will be complete."

You know all and more than I have said concerning the menace known as compulsory health insurance, state practice of medicine, etc., but the words of the ship surgeon meant so much to me that I cannot refrain from communicating them to you.

GEORGE HENRY MUNDT, M. D.

THE AMERICAN RED CROSS

CHICAGO CHAPTER

58 E. WASHINGTON STREET, CHICAGO

Dear Sir:

The Chicago Chapter, American Red Cross, and the Boy Scouts of America, will need some physicians and senior medical students for their camps this summer.

At the Red Cross Hospital, Camp Roosevelt, Rolling Prairie, Indiana, the physicians are paid \$100.00 per month, plus subsistence and transportation to and from the camp. This camp opens June 30th and closes August 16th.

At the Boy Scout Camps, Whitehall, Michi-

gan, the physicians are paid the same rate, and this camp opens June 23rd and closes August 30th. Some senior medical students are needed at this camp also.

At the Boy Scout Camp at Delavan, Wisconsin, a senior student is only required.

Students are paid \$80.00 per month, plus subsistence and transportation.

The service calls for taking charge of the health, sanitation and some First Aid instruction. Camp periods will be divided to suit the convenience of the applicants.

Applications should contain information of experiences, schooling, etc., and sent to the undersigned or to the Boy Scout Headquarters, 37 S. Wabash Avenue.

Yours sincerely

H. W. GENTLES, M. B. C. M.,
Chairman, First Aid Committee,
Chicago Chapter, A. R. C.

THE HEAD OF THE PALMER SCHOOL OF CHIROPRACTIC WRITES A BOOK

B. J. Palmer, D. C., Ph. C., head of the Palmer School of Chiropractic, Davenport, Iowa, is the author of science of chiropractic. The Journal of the Kansas Medical Society in commenting on Volume I, has the following to say:

The D. C. and Ph. C., being interpreted, mean "Doctor of Chiropractic" and "Philosopher of Chiropractic", respectively.

Realizing the general need for enlightenment, we take pleasure in presenting a few extracts from this epoch-making treatise.

"To illustrate, it was decided that all diseases of the throat, such as goiter, croup, diphtheria, bronchitis, quinsy and tonsillitis, had their origin in the region of the stomach."

"Chiropractors are fixing typhoid fever and other acute diseases in one or two brief adjustments."

Referring to diphtheria: "Chiropractors find that bacilli are there as result as much as mold found on decaying cheese. . . . The chiropractor replaces the displaced vertebrae by one move. . . . the symptoms known as diphtheria cease."

"I do not know of a greater humbug than is perpetrated by persons, who outwardly appear sincere in their profession, any more than the contagion theory. . . . what abnormal power has a little bug, on the outside, when he gets inside? Think!"

"What is disease? This question is often asked by the thinking and unthinking alike, and has (outside of Chiropractic) never yet been answered definitely. Many theories have been offered. . . . but they are not of any practical value to a Chiropractor except as

illustrations of the foolishness of the so-called 'Medical Science.'"

"Child-bed fever is always caused by a lumbar vertebra being displaced during childbirth."

Referring again to diphtheria: "We have checked the fun of doctors and saved children from being poisoned, by adjusting the vertebra that the pus poisoning was displacing."

"If yellow fever is conveyed from one person to another by the sting of a mosquito, where did the first yellow fever subject get the disease?"

"Smallpox and chickenpox are one and the same disease. A bad case of chickenpox is a mild case of smallpox. . . . In all cases that are classed as such, that we have had the privilege of examining, we have found a displacement of the fifth cervical, the replacing of which immediately returned all abnormal symptoms to normal."

And then the following regarding a man addicted to strong drink:

"At the forth* adjustment, he said, 'The odor coming from a saloon always had an inviting effect, so much so, that I sometimes could not resist the desire of going in and taking a drink; then I was in for a drunken spree. But now that smell is nauseating, repellent instead of inviting.'"

And to think that such knowledge can be acquired in a few weeks! (Health News, N. Y.)

*Original spelling.

IT DOES HAPPEN THAT WAY, SOMETIMES

In his "Best Stories in the World," Tom Masson tells of a successful business man who was describing his advance in the commercial world.

"I was clerking in a grocery store and making \$9.00 a week," he said; "but like many other young men, I fell in with a bad crowd and was induced to gamble."

"And so you were tempted to take money which did not belong to you?" suggested the long-faced man.

"No," replied the successful merchant, thoughtfully. "I won enough in a week to buy the grocery."

A TRUE OPTIMIST

He was very poor, but he had won the love of the millionaire's daughter, and had come to ask her father for her hand.

"Well," asked the father in a very discouraging tone of voice, "what are your prospects? Is there any chance for advancement in the line of work in which you are now engaged?"

"Is there an chance?" said the young man. I should say there is some chance. Why, sir, the establishment where I work employs 22,000 men and my job is next to the lowest in the place!"

THE POWER OF THOUGHT

Every time she thinks of sugar, a lump comes up in her throat.

Original Articles

DIFFERENTIATION BETWEEN THE QUICK AND THE DEAD*

GEORGE W. CRILE, M.D.,

Cleveland Clinic

CLEVELAND, OHIO

Daily the physician is called to see patients prostrated by accident, by hemorrhage, by wasting disease. Daily in the hospital wards are encountered patients whose shrunk, dejected faces, depressed circulation, failing respiration, cold clammy skin, extreme muscular and mental weakness betray the fact that unless some immediate method of restoration is applied, the prostration will progress to dissolution.

As the physician views these prostrated patients he is unable to visualize the mechanism that is failing. He has no premise on which to base a conception of the true cause of the picture before him. He does know that whatever the original or the continuing cause of the prostration, certain fundamental measures are required to accomplish restoration—rest and sleep, water, relief from pain, restoration of the per-minute circulation of blood through the master organs, and the return of the depressed or elevated temperature to the normal level. But in spite of his knowledge of methods of restoration, the physician cannot identify the fundamental mechanism which has been restored.

The processes of exhaustion may be so overwhelming as to overcome every effort to restore the patient. Thus, a patient with an acute hemorrhage may die shortly after his admission to the hospital; the hemorrhage does not explain the mechanism of death, it explains the cause of death. A patient may enter the hospital with acute hyperthyroidism and die; the cause of death is hyperthyroidism, but that fact does not explain the mechanism of death. Daily we see patients die from every kind of traumatism and from every type of disease, but whether the individual who dies is young or old; whether death is sudden and unexpected or is the result of protracted disease, in no instance does the cause of death give any clue to the mechanism of death.

What is the true pathology—what is the physi-

ology of death? What is the physiology of restoration? The pathologist can describe accurately the organic changes which are associated with death, but he can tell us nothing about the mechanism whose failure has been the immediate cause of death. The physiologist can describe the functional changes which are present in exhaustion and the progressive functional variations during the process of restoration, but he cannot describe the processes themselves.

An analysis of the causes of this limitation in the knowledge of the pathologist and the physiologist makes it appear that while they have apparently reduced the structure of the organism to its lowest possible factors, the unit cells, the progress of their investigations has been checked by the assumption that the ultimate basis of the energy shown by each living cell is unknown and perforce must remain unknown. It would appear, therefore, that our understanding of the fundamental difference between the quick and the dead upon which any final interpretation of the operation of the organism must be based has been hopelessly checked by our failure to attack efficiently the problems presented by the transformations of energy—the life cycle—within the unit cells themselves.

In an attempt to solve this fundamental problem—to discover the method of operation of the unit cells of the organism, the fundamental basis for its vital activities, researches have been in progress in my laboratory for many years. The problem has been attacked successively by physiological, histological, physico-chemical, and biophysical methods. The findings have been constantly checked by clinical observations and each group of studies has been correlated with those which have preceded it.

As a result of these investigations, especially with the crowning evidence presented by the application of the exact methods of the physicist, we have been led to the belief that the unit cells of the organism are electro-chemical mechanisms; and that therefore the organism as a whole is an electro-chemical mechanism. The life and function of an electro-chemical mechanism depends upon the maintenance of a difference of potential between a part of highest potential and a part of lowest potential, with parts of varying potentials within the circuit, whereby selective activities may be effected. We have accumulated evidence which tends to support

*Read before the Inter-State Assembly of the Tri-State District Medical Association at Des Moines, Iowa, Oct. 29, 30, 31 and Nov. 1st.

the conception that in the animal organism the brain is the part of highest potential—the positive pole—and the liver the part of lowest potential—the negative pole. If this conception be sound, then it would follow that the mechanism of life and death could be interpreted in electro-chemical terms—variations in vitality being in direct relation to variations in potential.

In accordance with this conception, therefore, exhaustion is the result of a diminution of the difference of potential between the poles of the organism, this diminution being due primarily to a decrease in the potential in the brain, which in turn results from a decreased difference in the potential in its constituent cells. This conception explains the identity of the phenomena of exhaustion and the progressive stages of exhaustion to "shock." When the difference in potential reaches zero, the organism is dead.

In accordance with this conception we have adopted certain fundamental principles as our guide in the protection and restoration of our patients. The maintenance of the integrity of electric cells of the type of these which constitute the animal organism require the following elements:

1. Abundant water.
2. Abundant oxygen.
3. Maintenance within a normal range of the permeability of semi-permeable membranes.
4. Maintenance of an optimum temperature.
5. Avoidance of prolonged continuous activity.
6. Rhythmic periods of comparative negativity for recharging.

In the human electro-chemical mechanism these requisites may be supplied by the following measures:

1. Abundant water is administered by mouth, by rectum, by hypodermoclysis.
2. Oxygenation is promoted by increasing the amount of blood in circulation by means of transfusion and by promoting the heart action by means of courses of digitalis.
3. The permeability of cell membranes is maintained within the normal range by the avoidance of lipoid-solvent anesthetics—ether and chloroform; by the use of nitrous oxid-oxygen anesthesia only to the stage of analgesia, placing the main reliance upon local anesthesia; by the infliction of minimum trauma; by the

utmost possible avoidance of every physical and emotional disturbing factor.

4. An optimum temperature is maintained by the selective internal and external use of heating or cooling agents.

5. Prolonged continuous activity is avoided and a state of negativity is induced by environmental control and by narcotics.

As concrete illustrations of the practical application of these principles in the human electro-chemical mechanism, I wish to discuss the management of certain acute abdominal crises such as those suggested by our opening paragraph—patients who on their admission to the hospital have a thready pulse and an abdomen either distended and rigid or filled with fluid—pus or blood.

Contrary to the usual order of consideration, in such a case it is imperative first to be sure what not to do. Such a patient should not be operated upon immediately after admission to the hospital; he should not be taken from the admitting room to the operating room; he should not be given a general anesthetic; he should not be taken to the x-ray laboratory; he should not be subjected to physical examinations which might lead to further exhaustion.

All of these procedures may properly be employed in the case of a patient seen before the crisis has developed—in whom there still remains a fair margin of safety; but for the patient with a thready pulse, a rigid distended abdomen and cold moist extremities they are imperatively contraindicated.

Such a patient is sent at once to his bed; he is immediately given a quarter grain of morphin with 1/50 of a grain of atropin; he is immediately given large quantities of water—2000 to 4000 cc. by hypodermoclysis through two needles in the pectoral muscles; his blood is grouped immediately and he is given a blood transfusion without being moved from his bed; he is immediately placed in a modified Fowler's position; large hot abdominal packs are applied immediately; and if he is vomiting he is immediately given a gastric lavage.

If the patient is already in the early stage of dissolution, his condition will not be improved by these emergency measures. The pulse will become continuously fainter; the anxious psychic state will pass on to delirium, the delirium to unconsciousness, the unconsciousness to death.

On the other hand, if the process of dissolution is not initiated and the pulse and general condition of the patient shows improvement within the first hour, then a decompressing operation is performed in the patient's room without moving him from his bed.

Within this crucial first hour, certain observations which may be made are of special import. A subnormal rectal temperature or a leucopenia is ominous. In a case of hemorrhage, leucocytosis is of high importance as it appears earlier than a lowering of the blood count or of the hemoglobin estimation.

It is to be borne in mind that in these cases of course we have no previous estimation as a guide. The blood picture, the pulse, and auscultation of the abdomen, together with the history and the general picture presented by the patient are our only guides.

The limited objective of this decompression operation depends upon the primary cause of the crisis, the imperative caution in each case being to quit the moment that objective has been achieved. Thus in a case of gangrenous appendicitis make no attempt to search for the appendix but establish drainage, and quit. In the case of a gangrenous gall bladder, make an incision over the center of the most tender and most rigid area, disturbing the new adhesions as little as possible, open the gall bladder, provide the simplest drainage, and quit. In a case of acute pancreatitis, establish drainage and quit. In the case of a perforating gastric or duodenal ulcer, suture the perforation, establish a suprapubic drain if there is much fluid, and quit—without performing a gastro-enterostomy. In the case of an extra-uterine pregnancy, evacuate the blood, excise the tube and quit. In the case of a ruptured spleen, if it is at all safe to do so, excise the spleen—otherwise use a mattress suture to prevent a recurrence of the hemorrhage. At any cost, a visceral perforation must either be closed or brought into the wound. In a case of grave intestinal obstruction, in accordance with the plan of Summers, decompress the small intestine at a high point to minimize absorption of the toxins, and quit.

Pursuant to the decompressing operation with its limited objective, the management of the patient is in accordance with the general plan briefly outlined above, viz.:

1. Modified Fowler's position.

2. Hot packs over the entire abdomen extending well down over the sides.

3. From 2,000 to 4,000 cc. or even more of water—Bartlett's solution—by hypodermoclysis each 24 hours.

4. The transfusion of blood, repeated if required.

5. Excepting in gall bladder lesions, and unless there is cyanosis, morphin in repeated doses until the respiratory rate is reduced to from 10 to 14 per minute.

6. Maintenance of utmost possible degree of negativity. To these positive points the following cautions should be added:

Avoid every needless disturbance of the patient.

Avoid any attempt to move the bowels in the acute stage of peritonitis. Use small enemata, not cathartics, after the acute stage has passed.

Avoid the continuance of morphin beyond the critical stage—but do not hesitate to give enough morphin until the critical stage has passed.

The importance of the time factor in these acute crises should be emphasized. It was noted in our war experience that with most abdominal wounds contamination progressed to infection in 10 hours; that the recovery rate of all operations performed within ten hours was practically uniform; but that the mortality rate of operations performed more than ten hours after the wound was received rose in geometric progression.

In cases of perforated gastric or duodenal ulcer, in particular, the most important single factor is the time factor.

In cases of ruptured appendix or ruptured gall bladder the time factor is of even more importance since in these cases pus is discharged into the peritoneal cavity.

Certain special points regarding the further control of certain specific emergencies may be added:

In a case of internal hemorrhage as from a gastric or duodenal ulcer its immediate arrest may be accomplished by utilizing the following principle in biologic adaptation:

As a defense against death from hemorrhage a mechanism has been evolved for increasing the coagulation of the blood as the death point approaches. It is logical, therefore, to utilize the fainting point clinically as an indication that the blood pressure is sufficiently low for the hemorrhage to be arrested by coagulation. The

patient being kept under continuous observation and control, an attempt is made to bring him to the fainting point by having him propped up nearly upright in bed. If the upright position does not produce blanching, a thready pulse and a moist forehead, then the blood may be sequestered in the extremities by adjusting a tourniquet around the thigh just tightly enough to block the venous but not the arterial flow. In this way enough blood may be tentatively removed from the general circulation to reduce the blood pressure until the fainting point is reached. The length of time this point should be maintained is empiric, but a brief period is sufficient to assure the formation of a secure clot at the bleeding point. Not only are the open vessels plugged but the patient has left in his body plenty of blood to flood the blanched brain when the bandages are released and the posture altered.

In a case of deep jaundice from biliary obstruction, if the gall bladder contains bile, its decompression should be accomplished slowly by an intermittent unclamping of the rubber drain. As noted above, morphin is contraindicated in jaundice for the reason that the function of the liver is depressed by narcotics, especially morphin.

In contrast with the limited objective attained by the primary treatment of these grave cases, if the patient is presented at a sufficiently early stage, he is taken at once to the operating room and a definitive operation for complete cure is performed.

In the presence of the slightest uncertainty as to the outcome, however, the patient should be given the advantage of the protective measures we have described, thus increasing his reserves *in advance* of the emergency.

An analysis of these methods of restoration will show that in each, aside from the operation indicated by the specific cause of the condition, the fundamental requirements for the maintenance of the difference of potential as outlined above have been the basis for our treatment.

The theory upon which the plan of management we have outlined is based was suggested by histological physico-chemical and bio-physical researches; our conviction as to the value of these procedures is based upon the experience of my associates and myself in 16,652 abdominal

operations. During the past three and one-half years, the surgical mortality of 14,949 operations at Lakeside Hospital has been 1.8 per cent; of all operations performed during 1922 the mortality was 1.6 per cent. A separate statistical study of operations for acute abdominal conditions, acute appendicitis, gastroenterostomy and resection of the stomach, cholecystectomy and cholecystostomy, colostomy and resection of the large intestine, shows a mortality of 3.8 per cent, as compared with a former mortality of from 6 to 9 per cent. In the above group are included 141 operations for cancer of the large intestine including 51 resections with a mortality of 2.8 per cent. The former mortality in this group was 5.3 per cent.

The diminution in the post-operative morbidity which is even more striking than the diminution in the post-operative mortality cannot be stated in figures. It should be added that whereas formerly it was necessary to select patients according to their probable ability to withstand the operation, we now accept every patient in whom operation is anatomically possible unless the process of dissolution is actually initiated.

ARTERIAL HYPERTENSION; ITS SIGNIFICANCE AND ITS MANAGEMENT*

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The attempt to evaluate arterial hypertension, to account for its presence, and to determine its relationship to pathologic changes found in the various organs and tissues of the body is a question that has occupied the best minds in the medical profession for many years. And, while much progress has been made, and definite knowledge has been obtained, it may safely be stated that we are still far from the final and conclusive answer to this whole question.

The modern clinician in his daily work has been keenly alive to the practical phase of the subject. He sees the actual condition in all of its manifestations in his patients. The medical physiologist and the research worker have likewise conducted many elaborately planned and

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carefully and scientifically supervised experiments with the end in view of unraveling some of the intricacies and determining some of the basic principles which underlie this perplexing question. That the representatives of the above mentioned classes of workers have contrived to at least keep themselves occupied, is attested by the flood of literature that has appeared during the last decade in the journals devoted to clinical, experimental and research medicine. It is quite evident that a legitimate and logical consideration of this subject should begin primarily with the cardio-vascular system.

Conditions of the heart muscle and the arterial system, in so far as their relation to arterial hypertension is concerned, are fairly well understood. There is more or less harmony and agreement among medical men regarding these matters. Such is not the case, however, when we come to the consideration of the capillaries. In the past relatively little importance was placed on the part played by the capillaries, either in normal physiologic processes or from the standpoint of their possibly being a starting point of pathology, which might ultimately affect the cardio-vascular system as a whole, as well as the organs fed by this same system. Formerly we thought that the control of the motor mechanism of the capillaries was identical with that of the arterioles. We considered that the sympathetic system controlled contraction of the capillaries and that fibres through the posterior spinal roots caused relaxation of the same. This was only a part of the truth. Some substances, such as adrenalin, will cause contraction of the arterioles but do not influence the capillaries at all. It now appears to be proved beyond doubt that the capillaries can contract and dilate independently of pressure variations in the arterioles. The trend of scientific opinion is now towards the belief that there is a purely local control mechanism for the capillaries. Said variations in control are brought about by action through a certain type of cell found in the capillary walls which is analogous to the unstriated muscles fibres of the arterioles. These cells are known as the "Rouget" cells. Physiological variations to meet certain demands, such as the contraction and relaxation of muscles at work, may take place over very wide spread areas. The same is true of the internal organs of the body while they are in a state of physiologic activity. It is not improbable that

some type of hormone may be found to play considerable part in this activity. This gives us a new conception of the possibilities of the work of the capillaries, especially when we consider the enormous extent or area of the great capillary beds.

Considerations as far reaching and possessed of such potentialities as the above may in the not far distant future present us with some entirely new and highly important facts which will tend to give to the capillaries an importance equal to, if not even greater, than that of the heart or arteries in all conditions where the blood vascular system is implicated. We are indebted for at least the major part of the above mentioned clues and facts to Professor Krogh of the University of Copenhagen, whose original and scientific researches, together with his conclusions, will be found in detail in his various publications.

Etiology. In a study of the literature of this subject we find the factors enumerated as having a causative influence are about as follows: Hereditancy, diseases of the nervous system, endocrine disturbances; the menopause with its natural endocrine aberrations, worry, stress and overwork; and lastly toxins. The latter may be bacterial, metabolic, or chemical in derivation.

1. Hereditancy: We all know that in a certain degree, both mental and physical traits or peculiarities, are handed down from parent to offspring following a well known natural law "Like begets like." We do, therefore, inherit a certain tissue type, a vulnerability or susceptibility, on the part of a particular structure or organ. This tendency, as a matter of course, is almost negligible, when we consider our subject from its practical side.

2. Diseases of the Nervous System: While it is true that certain diseases of the nervous system tend to be accompanied by an increase in blood pressure, it is likewise true that this pressure is not of the sustained type. It varies with the other symptoms and usually subsides with improvement in the underlying condition. Hence we are not warranted in considering nervous diseases as a factor of any particular importance in causing permanent high blood pressure.

3. Endocrine Disturbances: This new field of endeavor, or rather this old field, in which a new and consuming interest has recently sprung up, has been very generously called upon to explain almost all the ills to which human flesh is heir.

Often times in women, at that peculiar period of physiological upset, viz., the menopause, where we have as an accompaniment a disturbed action of both the ovaries and the thyroid, which is easily recognized, we do have also a period of high blood pressure. Certain cases of pure hyperthyroidism (exophthalmic goiter) will also exhibit a type of hypertension. Yet these cases are comparatively few in number. They differ essentially in type from the condition under discussion. The blood pressure rise is variable, not constantly present, and in no way resembles a case of essential hypertension. Therefore, we cannot give the endocrines an important etiological role in our discussion.

4. Worry, Overwork and Stress: It would be hard, indeed, to conceive of any primary or direct method or way, by means of which worry, overwork, or stress could produce the condition in question. At most they could only act as a contributory factor by paving the way for the real underlying or exciting cause.

5. Toxines: It is a well known clinical fact that certain toxines carried by the blood stream are capable by prolonged action of bringing about a permanently high blood pressure and likewise changes of a sclerotic nature in the blood vessels themselves. As to origin, these toxines may arise from disease producing microorganisms (animal or vegetable), they may be metabolic in origin, or they may at least in part be the result of the prolonged action of certain chemical substances.

Bacterial toxines primarily derived from acute infections remaining present and acting over long periods of time, or from focal infections, concealed or obvious, constantly feeding toxines into the circulation, would probably by popular vote head the list as causative factors in the condition under consideration. There can be no doubt about this matter whatever. The connection is too direct and convincing. The majority of our doctors who have practiced medicine for twenty-five years can recall a number of cases in which every phase, every step, every symptom and every detail could be easily and distinctly traced: a good part of the process, perhaps, having enacted itself under the direct observation of the family doctor. Take the toxine of syphilis as an outstanding example. Here we are dealing with a toxic substance derived from a microorganism belonging to the animal kingdom. This toxine has a notoriously well known predilection for the en-

tire blood vascular system. It may invade any part or the whole of this system. It usually shows all of the clinical symptoms and even its pathology bears the ear marks of, and can be recognized as, the result of syphilis and so it is with many well known pathogenic microorganisms. Skilled and experienced laboratory workers have repeatedly produced blood vascular changes by introducing bacteria and bacterial products intravenously into rabbits.

Toxines of Metabolic Origin: Here the connecting links are a bit harder to visualize perhaps but the end result is just as convincing as it is in the case of the bacterial toxines. Protein fractions and closely allied substances are now known to be toxic in the human body under certain conditions. Many scientific observers, such as Dr. Victor Vaughan, believe that the toxic powers of bacteria are due to their protein fraction content, rather than to any distinctive specificity inherent in the bacteria themselves. Metabolism is a great study and it is yet in its infancy. We have only a very meager knowledge, indeed, of the intricate and profound changes which take place in the anabolic and catabolic phases of the metabolic curve. This highly efficient and very delicately organized chemical laboratory is easily thrown out of gear. Improper foods, more intake in food than the organism can burn up, any long continued interference with the processes of oxidation or elimination, any strictly internal interference with the physiological action of certain of the highly organized body cells, may serve to bring about certain strictly endogenous or inborn errors of metabolism which may be very far reaching in their consequences, while at the same time our knowledge of either these factors themselves, or their mode of action, would be practically nil.

Perhaps, a homely example would serve to illustrate the part disturbed metabolism plays in cardio-vascular disease. Mr. A., twenty-five years of age, country born and bred, strong of wind, lithe of limb, slender of waist, pink of cheek, the picture of health, a stranger to venereal disease, no serious illness in his past record: he comes to the city and goes into an office, he climbs rapidly, he is a demon for work (night and day), he marries an ambitious society girl, begets a large family, grows rich, becomes a power in the community, and has many important interests. He has no time, he says, for exercise, rest,

or recreation, "plenty of time for them after a while." We see him again at age fifty, twenty-five years later, he looks old, his skin is yellowish white, or sallow, he is bald, his abdominal measure is several inches greater than his chest measurement, he is short of breath on slight exertion, he smokes almost constantly, he is worried, and sleeps little. All that he has left of the heritage that he brought from the country with him is a good appetite, and that is now a curse to him as he can not possibly burn up half that he eats. His blood pressure is constantly high, systolic 160 or 180, diastolic 110. No albumin in his urine yet. A typical case of essential hypertension, or hyperpyesia (if that means anything to you) caused by perverted metabolism in its broadest and most comprehensive sense.

Laboratory experiments are described in the literature in which a series of individuals presenting first degree hypertension were placed on a diet containing an excess of nitrogenous products for period of a few weeks. The blood pressure was not raised and the blood chemistry did not show any accumulation of nitrogen split products. The percentages of urea, uric acid, and creatinin remained unchanged. Such experiments, however, prove nothing. If metabolic factors acted with sufficient rapidity to produce changes in the time limits mentioned above, the whole history of the disorder under discussion would be changed. The condition would be an acute, rather than a chronic one and the death rate from cardio-vascular conditions would be increased perhaps fifty per cent. It takes many years for metabolic factors to produce changes of any consequence. Cases such as the one cited above are neither uncommon or overdrawn. Their name is legion. Sometimes the symptoms vary a bit, the gastro-intestinal tract may be the chief offender; the individual has had intestinal symptoms for years; gas, indigestion, constipation, mushy foul stools, indicanuria, etc. On the other hand, we may observe a type of man, a mental worker, let us say; he has no bad habits, neither drinks or smokes, his venereal history is negative, yet he presents arterial hypertension. We may find that this man does not know what the word exercise means. He is thin, dried up, desiccated, constipated, he drinks very little water, he has frequent headaches, etc. The catabolic phase of his metabolic curve will be found badly deranged, and so it goes.

To verify the above we know that certain of the Chinese working classes, and likewise the laboring classes of India very commonly reach an advanced age in a fair state of health and show no particular hypertension or advanced arterial changes. They have no bad habits. They commit no excesses. Their food is of the simplest and it is taken in quantities sufficient to meet their bodily needs. They metabolize well. The anabolic and catabolic phases balance each other nicely.

Many observers lay great stress on salt intake as a factor in increasing blood pressure, while others are not impressed by the matter. Recent experiments by O'Hare and Walker at the Peter Bent Brigham Hospital demonstrate that there is no dependable relationship between blood chloride and high arterial pressure. We may have normal blood chloride and high arterial tension and conversely, we may have high blood chloride and low blood pressure. Toxines carried by the blood stream are the chief exciting causes of cardio-vascular diseases. All other factors may be classed as contributory or predisposing causes.

Symptomatology. The progress of the condition by stages, perhaps I can best illustrate by diagrams. Let diagram No. 1 represent the first

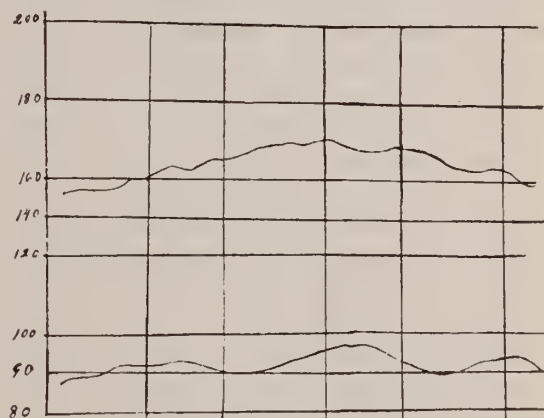


Diagram 1. 1st Stage

stage of hypertension. Here the diastolic pressure runs between 90 and 100, most of the time around 90. While the systolic pressure runs anywhere between 150 and 180, most of the time nearer 160. Toxines carried by the circulation increase the tonus of the small blood vessels, perhaps chiefly the capillaries. This makes an increase of peripheral resistance to overcome which the heart and arteries must do more work, hence the increase in systolic pressure. We may call

this the physiologic stage, the stage that is most amenable to management. There may be no pathology, certainly no grossly demonstrable pathology. As time goes on we come to the second

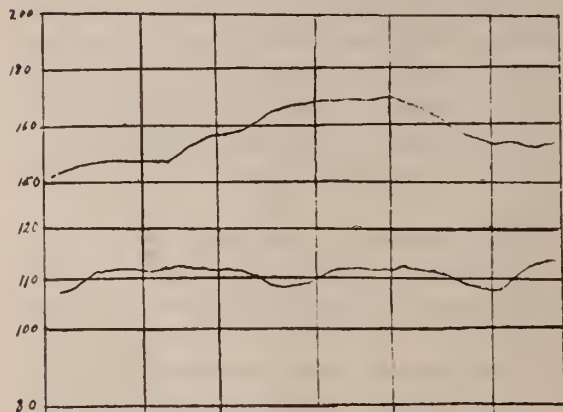


Diagram 2. 2d Stage

stage, represented by diagram No. 2. In the second stage of hypertension we find the diastolic pressure running around 110, sometimes slightly below the line, most of the time, however, it is more liable to be slightly above the line. The diastolic pressure is now showing a tendency to become fixed, or to express it more clearly, it rarely falls, usually it slowly rises, while the systolic pressure may run anywhere from 150 to 180, practically never falling below 150. Now we have constantly present toxines in the blood, changes in the composition of the blood, slowing of the blood stream, distention of the vessels, plus the added factor of mechanical strain, all of which induces nutritional changes in the walls of the blood vessels with consequent thickening, beginning most commonly in the subendothelial layers of the tunica intima resulting in invasion of the other coats and ending in a more or less widespread arterio-capillary fibrosis. This process is exactly what the old English observers, Sutton and Gull, described, and they called it arterio-capillary-fibrosis. Thoma in his studies called this angio-sclerosis. This whole progress, of course, requires many years for its establishment. It gradually and constantly progresses. For convenience of study only, I have suggested an arbitrary division into stages. In the earlier part of this stage the individual has, as a rule, no voluntary complaints. He may express himself as "feeling fine," possible he comes up for life insurance examination, the examiner finds his blood pressure too high; his kidneys may appear to be

all right, as interpreted from one urinalysis. It is to this type of case that certain men apply the term essential hypertension or hyperpyesia. Why? Simply because they cannot feel any hardened arteries or demonstrate any gross pathology. Most life insurance men hold that a systolic pressure that remains constantly above 150 is pathologic. Personally, I am firmly convinced that they are correct.

Sir Clifford Allbutt reports a case of hyperpyesia which afterward came to autopsy. Findings as follows: hypertrophy and dilatation of the heart, interstitial fibrotic thickening of the liver and the kidneys, with arterio-sclerotic changes in both the liver and the kidneys. Diagram No. 3

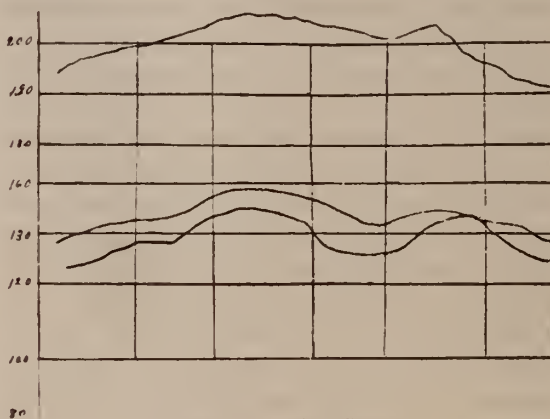


Diagram 3. 3rd Stage

represents the third stage of hypertension. Here the diastolic pressure runs between 120 and 140. Average 120 and 130. While the systolic pressure may vary anywhere from 180 to 220, or occasionally much higher, most of the time, however falling between 190 and 220. In this stage the underlying condition is now fully developed, and we can best understand its total symptomatology, as well as its possibilities and consequences by studying diagram No. 4, which illustrates schematically the whole process. In diagram No. 4 "A" represents the start of the process, the first sting of the causative toxine; the physiologic stage if you wish; the stage of essential hypertension. Here hypertension is the outstanding symptom, and other symptoms are either wanting or they are very hard to demonstrate. As time goes on we reach the point "B" where definite arterial and capillary changes have taken place, local or general. By this time we are, perhaps, able to demonstrate said arterial and capillary changes. Definite symptoms pointing to certain

organs or structures begin to show up. The diastolic curve of the blood pressure rises and tends to become fixed (it no longer falls to normal), and the systolic curve mounts still higher. Gradually we approach the point C. Here the abnormal blood pressure ratios and the generalized arterio-sclerosis stand out prominently, literally speaking for themselves and in addition thereto, we have definite groups of symptoms pointing to fibrotic and arterio-sclerotic changes in certain of the internal organs, e. g., arterial and fibrotic changes in the kidneys producing chronic Bright's disease; or the arteries of the

and dilatation the heart muscle itself may show evidences of fibrotic or degenerative changes with coronary sclerosis. In the advanced stage of this process we have all possible combinations of the above factors, sometimes one stands out, again it is another, or, two or three may show prominently at the same time. The end may come by chronic nephritis, acute uremia complicating or apoplexy, cerebral hemorrhage, or cardiac decompensation with general venous stasis, general dropsy, pulmonary edema, and death.

Now the urologist, or the man who is interested particularly in the kidneys, has a case referred to him with kidney sclerosis as an outstanding factor. He thinks the kidney disease is the cause of the hypertension, blood vessel changes, and the cardiac hypertrophy. On the other hand, certain men believe that the condition of the heart and blood vessels and the hypertension causes the kidney disease. The specialist in nervous diseases frequently sees in his work a type of hypertension; therefore, he suggests nervous diseases as a cause. The endocrinologist meets the symptom hypertension in certain phases of his work (why not, the endocrines are the regulators of metabolism). He at once suggests the endocrines. And likewise the gynecologist with his series of cases going through the menopause (which is in good part endocrine in origin) meets this symptom. He makes his suggestion, and so this merry war of words goes on.

This all serves to remind me of a poem encountered in early childhood in one of the school readers of the period, it was written by Saxe, and entitled the "Blind Men and the Elephant." As you will recall the blind men made a personal visit to obtain first hand information concerning the elephant. One of them came in contact with the elephant's side, he thought the elephant was like a wall. One grasping a leg said "the elephant is very much like a tree." Another happening to take hold of an ear said, "It was quite plain the elephant was very much like a fan." And so they disputed, each in his own opinion, exceeding stiff and strong, though each was partly in the right and all were in the wrong.

And so it is with the above classes of observers, each man describes the elephant as he has found it. The trouble with all of them is that they see from one angle only. They fail to visualize and study this process in its entirety.

Arterial hypertension is not *per se* a disease and

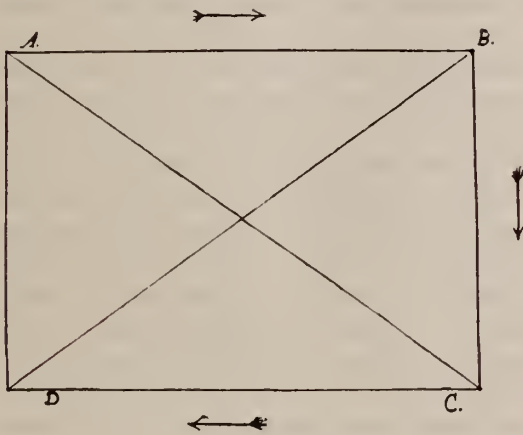


Diagram 4

- A—Arterial Hyper-tension.
- B—Arteriosclerosis.
- C—Nephritis, Apoplexy, etc. Retinal, liver, lung changes.
- D—Cardiac damage. Cardiac hypertrophy and dilatation. Cardiac failure and dropsy.

brain may bear the brunt of the attack with apoplexy, degeneration or softening; or chronic pulmonary conditions, such as an old long standing case of mitral stenosis with its long continued insult of passive congestion and fibrosis may be sufficiently prominent to exhibit pathology and symptomatology which may overshadow symptoms elsewhere; or it may be the liver, or the eyegrounds that will show changes most prominently. Now this brings us to the point "D" (the heart). It is easily seen that the heart has been overworked. It may be only a question of gradual compensatory hypertrophy and dilatation until the heart muscle has reached the limit of physiologic response. Now the heart muscle may gradually give way, weaken and allow some fall in pressure, or it may fail completely with dilatation, venous stasis and general dropsy. In addition to the above gradual process of hypertrophy

it should never be spoken of as such. Hypertension is only a symptom, just as jaundice and albuminuria are symptoms. It is true that it is an early, an outstanding, a prominent and, perhaps, even an important symptom, yet nevertheless a symptom, and there is always something behind it. In its more acute and irregular manifestations it is often a transient symptom of a great variety of conditions. Permanent or so-called essential hypertension is one of the symptoms of a wide spread disease of the cardio-vascular system as a whole. To which is superadded, sooner or later, a more or less general arterio-capillary fibrosis with late or terminal symptoms referable to one or more of the important internal organs of the body.

MANAGEMENT

Hypertension being only a symptom any attempt to force the blood pressure down without due regard to the underlying condition would be very poor and unscientific therapy. Such a procedure would be on a par with taking a patient having a positive Wassermann and treating the Wassermann test. It is the underlying condition that we must turn our attention to and then, perhaps, improvement may take place in the hypertensive and the other symptoms as well. There is a certain time or stage of the subject under consideration when we are confronted by an acute phase where prompt action may be necessary to save life, e. g., eclampsia or acute uremia. Here the old fashioned measure of blood letting is occasionally found to be of use. This measure eliminates some of the toxic material, it lowers the blood pressure quickly though temporarily, it gives the natural forces of the patient a chance to readjust themselves and the physician a chance to proceed with his therapeutic schedule. If you have withdrawn anywhere near a pint of blood, normal saline solution should be introduced (subcutaneously, intravenously, or by proctoclysis) to take its place. Again take the elderly man with a systolic pressure running from 220 to 240. He has severe continuous headache, he is constantly dizzy, he occasionally falls and may cut himself about the head. Judicious blood letting may prevent a cerebral hemorrhage in this type of case. However, the above measure belongs in the emergency class. Its use is occasional and its value temporary. Our attention shall be chiefly directed to the type of cases which show sustained or so-called essential hypertension as a symptom.

The chronic slowly progressive type. This is our great problem. We may as well admit frankly at the outset that we have no specifics. It becomes, therefore, a question of management, rather than exact or specific treatment. As a rule the damage is well on the road before the physician sees the case. The management of this condition very naturally divides itself into two heads, first: prophylaxis and second: symptomatic or emergency measures.

Prophylaxis: The first thing to do is to take a thorough physical inventory of your patient. Find out as nearly as may be the condition of all the various organs and tissues of the body. Ascertain how much damage is done and its location. Investigate his metabolism. If any exogenous source of toxins is found, remove same. If any focal infections are located, clean them out. If any contributing factors are found in the method of life or habits of the individual, take the proper steps to render them inactive. When you have obtained and considered all of the information furnished by the above investigations you are in a position to map out a schedule suitable to the needs and capacities of your particular patient. In general we may say the patient should lead a quiet, simple, even, orderly life. It may be necessary to cut down the activities of the individual as much as fifty per cent. Rest, perhaps, even a part of the day in bed, is a necessary and useful measure in severe cases. The nervous system should be kept in as tranquil a state as possible by avoiding business strain. Bad habits should be corrected. Dietetic considerations are of the very greatest importance. Most individuals past middle age eat very much more than they need. A celebrated English physician once said: "If a man would begin cutting down his diet at middle age and continue reducing the amount eaten and finally go out of life on the same diet that he came into it on, namely milk, that he would increase his life span very materially." Reduce the diet to meet the needs of the body, considering the ability of the organs to metabolize. It is not so much a question of an iron-clad diet suitable for all cases, but rather, give to the individual what he needs and can utilize, but nothing in excess. The simpler and more abstemious the diet the better in all cases. Milk plain and in its various combinations, is an ideal food, the simpler vegetables chosen with reference to their chemical content if necessary. Plain cereals, fruits, stewed

or raw, according to need, and fruit juices, particularly the citrus fruits. It is best to keep the bowels open, the skin active, and the urine abundant. Saline purgatives, alkalies and sweat baths, in such cases as need them. The above is a brief enumeration of the lines along which we should work. The amount of benefit obtained will depend partly upon the condition of the patient, the stage of the disease which he presents, partly on the skill, judgment, and experience of the attending physician. To illustrate, take any fairly well-advanced cases with the usual leading symptoms, present and prominent. Place the individual at absolute rest, in bed a good part of the time. Use the Carrell milk diet strictly. Give daily morning doses of some appropriate saline laxative. Alkalinize your patient. A few weeks of this simple plan alone will serve to improve the individual very much. The comfort and sense of well being of your patient will be markedly improved even though the readings of the blood pressure curve may be very little or not at all affected. If the kidneys are badly crippled and handle nitrogenous products poorly, cut same to the minimum consistent with necessary bodily nutrition. If intestinal toxemia is a marked factor with constipation present, use salines freely, preferably sulphate of magnesia. Make the appropriate dietary changes, and use bacillus acidophilus milk freely as a part of the diet, etc.

Second: Symptomatic or Emergency Measures in Treatment: Under this heading would come the discussion of the use of drugs. This condition having once been established drugs play a very unimportant part in its management. Nevertheless we still use them. The iodides, preferably the lipoid or albuminoid type of same, used in small or moderate doses for a few weeks at a time with rests between is perhaps of some value, even where syphilis is not a factor. The use of the nitrites, nitroglycerine, sodium nitrite, etc., used for considerable periods with intervals of rest may be of benefit in selected cases; they may be tried. Very closely related to the above, from a therapeutic standpoint at least, would come the use of the arterial sedatives, of which class, aconite seems to be the favorite. Many prominent and experienced clinicians are very enthusiastic over aconite in this connection. They use it in fair doses over long periods of time. It is always easy to criticise, yet I do not believe very much benefit is ever derived from the use of any of the above

mentioned drugs. At best their benefit is only temporary, yet they may serve to give us a little respite in which to arrange a more suitable schedule. Generally in the cases in which we need them, most of the small blood vessels have already been damaged to the point where they have completely lost the power of response. We should make it an invariable rule in trying any of the above classes of drugs that if we do not get any response within a reasonable time we should drop the drug at once and for good. Close attention with strict adherence to the above mentioned general principles of management will give the best results possible, compatible with our present knowledge and understanding of this subject.

THE NEXT STEP IN THE CONTROL OF TUBERCULOSIS*

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In such diseases as smallpox, which, by their appeal to the fear instinct of the public, prophylaxis is a comparatively simple matter. In the acute infections, measles, scarlet fever and diphtheria where the incubation period is short and where the connection between cause and effect is perfectly apparent, the necessity of prophylaxis is properly evaluated both by the medical profession and the public.

In tuberculosis, however, we have a different situation. In tuberculosis, the period between infection and disease may be one of years and the problem of prophylaxis becomes immediately more complex. The repellent features of smallpox are absent; the connection between cause and effect, the evolution of the seed to the harvest is not so apparent.

It is the object of this paper to try to point out some of the difficulties that arise in the program for the prevention of tuberculosis. With a proper appreciation of the difficulties, the weak spots, we ought, with our present knowledge and the facilities at our command, to be able to organize our work so that the anti-tuberculosis campaign of the future will be much more productive of results than it has been in the past.

Long before the epoch-making discovery of Koch, the phthisis mortality rate began to fall

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in many countries; most notably was this the case in England where the death rate has declined nearly 54 per cent. since 1866.

It remains for us to analyze the exact causes of this decline, to determine what factors have been chiefly operative, to try to outline measures that will enhance these factors and accelerate still more the rate of the decline.

The death rate commenced to fall before we ever knew of the tubercle bacillus; it commenced to fall because living conditions were no longer so favorable to the propagation of the tubercle bacillus. In the years when tuberculosis was at its worst, poverty, wretchedness, overcrowding and starvation furnished ideal conditions for the propagation of the disease and for childhood infection. The *seed* was there in plenty; the consumptive, house with his family, in a couple of dark rooms; the *soil* was ready, the child, undernourished, anemic, in close contact with the consumptive parent; the harvest was to be expected.

Undoubtedly the industrial revolution, the improved condition of the working classes, better food and better social environment have had considerable to do with the decline of tuberculosis.

But it must not be forgotten that exactly the same principles were operative that we now preach in our anti-tuberculosis campaign. Improved conditions and better living built up the physique of the child, increased his resistance and made the ground more stony. Improved conditions, better houses and more rooms increased the distance between the consumptive parent and the child, made the danger of mass infection less and the sowing of the seed less likely.

Better social conditions were operative up to a certain point and there halted. Then came Koch's discovery and the problem seemed solved: *No seed, no harvest; no bacilli, no tuberculosis.*

To this new knowledge and to the effort made, consciously or unconsciously, to turn it to advantage, to prevent the sower from spreading his seed, must be attributed a large part of the decline which has taken place in recent years. In countries where nothing has been done, as in Ireland, Serbia and Spain, no definite decline in the mortality has been noted. Germany has many sanatoria and there has been a definite fall. In the larger cities of the United States in which active crusades against tuberculosis have been carried on, statistics show the mortality rates have fallen. In short, wherever municipalities have

supported a vigorous anti-tuberculosis campaign, the results have been gratifying. The reward is in proportion to the time, money and effort expended and if the time, money and effort are adequate, there should be no limitation in objective except the elimination of tuberculosis.

To those who preach limitation, irreducible minimum, we answer there is no limitation, no irreducible minimum but zero. For the farmer who believes in thoroughly weeding his garden there is no irreducible minimum. He realizes that each weed allowed to flourish, to grow unchecked, is, potentially, a thousand weeds. We know that each open case, unsupervised, is, potentially, many consumptives; that each open case propagates his disease in inverse ratio to the extent of supervision.

In view of our present knowledge and the possibilities at our command, it is difficult to realize that tuberculosis, as a cause of death ranks third in Chicago, third in the United States.

On what fundamentals should a tuberculosis crusade rest? A study of the anti-tuberculosis campaign of the various countries leads us inevitably to the conclusion that if we are to obtain the best results, we must have a combination of the different methods, not focusing our attention solely on animal tuberculosis as in Denmark nor on the reporting of the case alone, as in Scotland.

In the scheme now operating through the Municipal Tuberculosis Sanitarium of the City of Chicago working in conjunction with the Health Department, this combination has been achieved: Tuberculosis is reportable.

Infection from animal sources is prevented by pasteurization of all milk used in Chicago.

Isolation of the germ carrier is enforced.

Preventorium and sanatorium facilities are afforded.

Home supervision is ensured by a large force of field nurses. The scheme as now practiced is the direct result of the plans and surveys outlined and instituted by Dr. John Dill Ribertson during his period of office as Commissioner of Health and President of the Board of Directors of the Municipal Tuberculosis Sanitarium. It may be interesting to know that Dr. C. E. A. Winslow of Yale University says it is the best plan yet devised for the control of tuberculosis.

The management of the open case in contact with children is one of the outstanding features of the work. Prevention of childhood infection

is the objective. Especially is it the objective in children up to two years of age, because at this time infection is followed by disease in a large percentage of cases. The following figures from Fishberg support the statement: 75 per cent. of children born during the last year of the tuberculous mother's life die; 90 per cent. born during the last month, succumb; 16 per cent. of the death rate in children under six years of age, of tuberculous parentage, was due to tubercular meningitis, as against 1.27 per cent. of the death rate among the normal population of New York.

It will not be amiss to consider here some of the factors that tend to prevent tuberculosis campaigns from reaching their fullest objectives:

First: As Fishberg states, a lack of distinction between infection and disease. Infection is practically universal. It is with active disease—the open case, the sower of the seed—that the campaign must chiefly concern itself. In Chicago, this distinction has been recognized as vital and our campaign pivots around the open case and the contact.

Seconds The lack of institutional space for the careless consumptive.

Third: The difficulty of controlling the habits and movements of the open case outside the hospital or sanitarium.

Fourth: All cases of tuberculosis do not come under the observation of well systematized and standardized organizations.

It is this last feature that I wish to discuss further.

At the close of 1915 the dispensaries of the Municipal Tuberculosis Sanitarium of Chicago had 9,218 cases of tuberculosis under supervision with 4,204 deaths, a rate of 17.17 per 10,000 of population; in 1922, 40,833 cases were under the supervision of the dispensaries and the number of deaths was 2,325—a rate of only 8.37 per 10,000; as the number of reported cases increased, the death rate decreased. This was no mere accident. These statistics show, as the statistics of no other campaign have shown, that the death rate begins to decline in the ratio in which cases are diagnosed, weeded out, supervised and cared for. It has become an axiom in tuberculosis work that the tuberculosis situation of a community must be judged by the death rate and not by the number of reported cases.

What part has the private physician played in the campaign? In 1908 there were only 2,577

cases of tuberculosis reported to the Health Department of Chicago by private physicians. A consideration of cases reported during the three years 1919-1921 inclusive, shows a marked contrast.

1919 Dispensaries reported 8,863; private physicians 6,744.

1920 Dispensaries reported 4,940; private physicians 5,807.

1921 Dispensaries reported 4,959; private physicians 5,634.

The private physicians latterly have been reporting more cases than the active special agency for the control of tuberculosis. The physicians cooperate better, they are more conscious of their responsibilities. Why? Because the campaign has been directed at the physician as well as at the public.

The 1916 tuberculosis survey, undertaken under the direction of Dr. Robertson, was the first great step in educating the physicians of Chicago to the importance of reporting cases. The results of the survey were broadcast showing that thousands of cases were under no supervision and allowed to propagate their disease unwittingly.

In addition, a new departure in preventive medicine was made, the institution of the hearing board. The hearing board was organized to keep alive in the minds of the physicians the necessity for reporting cases. Mr. Edgar A. Jonas, now President of the Board of Directors of the Municipal Tuberculosis Sanitarium, acted as attorney for the hearing board and the physicians were made to realize that tuberculosis was a reportable disease in fact as well as in name. 1,423 physicians were called before the board and compelled to explain why they had been remiss in reporting cases. In practically all instances it was found that failure to comply with the law had been unintentional. The physicians promised better cooperation and were excused. Most of them lived up to their promise and it was never again found necessary to call them before the board. Suits had to be instituted in only eight cases.

This cooperation on the part of the private physician is gratifying, but much remains to be done; the ground is but scratched. We still have a great army of unreported cases which go about without supervision.

In the private physician, who comes into closer contact with the population than the health offi-

cer, lies the hope of the anti-tuberculosis campaign of the future. If he is to fulfill this hope, if he is to measure up to his responsibilities, the private physician must, in the first place be acquainted with the law. In the second place he must have, as part of his equipment, the skill and training necessary to diagnose the early case of tuberculosis. A thorough chest examination of every patient should be part of his routine.

Of the 1,423 physicians before the hearing board, 439 stated that they had made no examination, that the patient came in for a cough or a cold or a little plenrisy or a touch of indigestion and a prescription hurriedly written had been the measure of the doctor's services. These 439 cases that got the hurried prescription and no examination *were all either moderately or far advanced cases of tuberculosis.*

A thorough examination of all patients coming to the physician's office would be a great stride towards the solution of the tuberculosis problem. If each of the 5,000 physicians practicing in Chicago, made only two chest examinations a day, we would have 10,000 examinations a day. 3,000,000 persons, more than the population of the City of Chicago, would receive a chest examination each year, while only 20,000 new cases are examined annually in the dispensaries by the twenty dispensary physicians.

The primary responsibility for the development of a great percentage of active disease and ultimate death, rests squarely upon the medical profession. Whether it is ignorance of the law or inability to detect the early case, the blame lies in the province of the practicing physician and in the province of the medical school which equips him for the practice of his profession.

Massive infection and the dissemination of the disease can be prevented by the health department and other health agencies; but they can be prevented only when the cooperation of the private physician places the cases which are a menace under the observation of the proper authorities. Without the private physician, health agencies are helpless. They cannot reach into the home as can the doctor in private practice and identify the early case before he has had time to do damage.

The physician treating a diphtheria case, takes every precaution to prevent the spread of the disease; but almost invariably he is remiss in his precautions against the open case of tuberculo-

sis. Our field nurses find in making their rounds that the contacts have not been examined, the great danger to the children not explained and often no advice has been given as to the care of the sputum.

It is true that among the poorer classes there is often no private physician; these cases, however, are being reached more and more daily, through the dispensary field workers.

The private physician, then, does not report his case either because he does not know the law, because he knows the law and wilfully evades it, or because he is unable to diagnose the early case. Some may take exception to this statement as to the inability of the private physician to recognize the early case. Following figures, however, are somewhat disturbing. In 1906 Barnes showed that 46 per cent. of the consumptives of Rhode Island had been incorrectly diagnosed; in 1909 Stolle showed that 44 per cent. of the consumptives in Connecticut had been incorrectly diagnosed; in 1911 Dearhold showed that 42 per cent. of the consumptives in Wisconsin had not been diagnosed correctly by the first physician consulted; in 1911 Howe showed that 57 per cent. of the consumptives in Massachusetts had not been correctly diagnosed.

The reason for the irreducible minimum is evident; the reason why anti-tuberculosis campaigns do not reduce the mortality below a certain point is because the private physician does not diagnose 50 per cent. of his cases. Half the cases of tuberculosis, unsupervised in the early stages, allowed to drag on into the moderately and far advanced form, allowed to do incalculable harm before the physician is awake to the situation!

Here is a leak that will sink any anti-tuberculosis ship. The public health workers are dependent for their data on the practicing physicians and if the physicians fall down, the campaign falls down; we have our irreducible minimum; we fold our arms and wait while tuberculosis takes its toll of 120,000 yearly in the United States.

How are we to stop the leak? The answer is obvious. The practicing physician must be better trained in tuberculosis work. That he is not so equipped today is not his fault; the fault lies with the medical school that trained him for the practice of his profession. The medical schools heretofore have given instruction in tuberculosis

that is in no way commensurate with the importance of the disease that ranks third in the mortality rate in the United States. In an effort to determine this fact, Dr. John Dill Robertson in 1918 sent a questionnaire to fifty large medical colleges and universities in this country. Twenty-six universities answered the letter. In eight of the twenty-six no clinics of any kind were held relating to tuberculosis. In the other eighteen an average of twenty-four hours in each school was devoted to tuberculosis. The best educational work on tuberculosis seems to have been given by the College of Medicine and Surgery of the University of the Philippines. The Dean stressed the reason when he stated in his letter, "Tuberculosis is recognized as being responsible for many more deaths in the Philippine Islands than any other contagious disease and the study of it is given a place in our curriculum in proportion to the importance of the disease." The last phrase would constitute a much needed slogan for the medical schools of America. The course in this school in the Philippines consists of three hours per week during the entire year and includes dispensary work, clinics, hospital work and a special exhaustive laboratory course.

As a contrast to this elaborate program of education, we turn to the report of Dr. Metcalf on this phase of the problem, before the Illinois State Medical Society, at Springfield in 1918. He shows a review of the catalogues issued by the Class A medical colleges. According to the catalogues, one college dignifies the subject by having a clinical professor of tuberculosis; five or six other colleges give tuberculosis "honorable mention." In one of the Class A medical colleges of Illinois, according to their catalogue, the department of Laryngology and Otology consists of the following officers of instruction:

Three professors.

Seven assistant professors.

Six instructors.

Three assistants.

All this for Otology and Laryngology, which really concern only the specialist and for tuberculosis which vitally concerns every practitioner of medicine, next to nothing! Since 1902 an average of 7,000 have died annually from tuberculosis in the State of Illinois; 70,000 in the State of Illinois are sick and incapacitated due to tuberculosis; and yet more attention is given to Otol-

ogy and Laryngology in the curricula than to tuberculosis.

Every physician is or should be, vitally interested in tuberculosis. He should have adequate instruction in tuberculosis as a most important part of his training. The course in the college curriculum should be amplified. Clinics should be established in sanatoria and dispensaries, where the students can receive training not only in the treatment and diagnosis of tuberculosis, but also in the management of the patient from the standpoint of the law, and the standpoint of public health and preventive medicine.

And now, after a consideration of these questions, we come to our problem. Is there a next step? Is there more to be done, or are we to be content with our irreducible minimum and fold our arms? The answer is obvious; there is a next step and if we take it and follow where it leads we shall see the trend of tuberculosis mortality continued downward, ultimately to elimination.

The next step and the obvious step lies in the:

Standardization of all methods pursued, plus organization to include all practicing physicians, plus intensive courses on tuberculosis in the medical schools.

There is urgent need of standardization not only of the diagnosis of the early case, but also on every possible angle of the disease, medical and legislative, so that all physicians can work along the same lines toward the common goal. We must have in mind the same first principles that animated tuberculosis work in the army during the war. The work was standardized; no one was permitted to deviate from the prescribed routine and the result was that the entire organization worked as one man.

In conclusion, I wish to emphasize the following points:

First: Better instruction in tuberculosis in the medical schools; more hours in the curriculum; more space in the catalogue.

Second: Better support from the medical profession in the diagnosis of the early case. A complete chest examination of every new case that comes to the physician's office. Prompt reporting of the case, so that the open case about which the campaign pivots may be under prompt and complete supervision.

Third: Standardization of all activities bearing on tuberculosis work.

Fourth: Examination of contacts.

Fifth: Careful observation and frequent sputum analyses of all cases of asthma, chronic bronchitis and emphysema. Especially is this important in the aged as the coughing grandparent is a common cause of childhood infection.

Sixth: Instruction of patients. Propaganda to make institutional care more acceptable to the open case and sanitarium care more acceptable to the early case.

Seventh: Refusal of physicians to sign death certificates in cases of tuberculosis which they see for the first time just before death. In 446 cases in 1922 the death certificate constituted the first report of the case. In 427 of these 446 cases, the patient had been under the care of some practitioner, faith healer or cultist and the physician was called in only to insure a burial permit. The cultist will thrive as long as the physician, by signing death certificates, is willing to protect them. Let the cultist who has had the case for weeks or months or years, see it through and then at the end, let him take his responsibilities where they belong, to the coroner's office.

DISCUSSION

DR. JOHN DILL ROBERTSON, Chicago: In the last point of Dr. Wightman's paper, she states that of 2,300 deaths from tuberculosis in Chicago in 1922, 446 were not reported to the Health Department, the first report being contained in the death certificate. These 446 cases had been in contact with many other people, some of them in contact with children who undoubtedly became infected with tuberculosis.

We have come to believe when people have passed the age of puberty they are not very likely to become infected with tuberculosis. That does not mean they may not have been infected in childhood. No one can estimate the numerous contacts made by these 446 individuals, nor the number of new cases caused by them.

What hope can we entertain of wiping out tuberculosis, when one out of every five cases in the City of Chicago is not reported until the day of death? A large percentage of these 446 cases were under the care of an unlicensed practitioner, and when the last day came and a physician was needed to sign the death certificate, the neighborhood doctor was called in and he obligingly signed the death certificate. This he should have refused to do. He should have referred them to the coroner, who in turn should have held a coroner's inquest.

Recently three or four of us got the coroner of Cook County, the Health Commissioner of Chicago and the president of the Municipal Tuberculosis Sanitarium Board together, and negotiated an agreement whereby the Registrar of the deaths in the Health

Department would refuse to issue burial permits therefor in cases which had not been reported to the Health Department. This agreement has not yet been put into operation, but when that agreement is carried out, good results will accrue I am sure. Such a practice would mean that the burial would be held up, a lot of trouble would be made for the family, a post mortem examination would reveal tuberculosis, and everyone would learn his lesson. Incidentally, it would mean protection to the sick, and teach the quack and unlicensed attendant that they trifle with human life. It is one of the most effective ways of eliminating that sort of individual from the practice of medicine.

It is difficult to find, (as Dr. Wightman has said), the hidden cases of tuberculosis. She has presented here direct evidence of one in five that are hidden until the day of death. Constant and continuous surveys must be made to unearth them. Where a city like Chicago has \$1,600,000 a year to spend for tuberculosis, it is possible to reach most of them.

In 1916 we conducted a survey of 8 square miles in the center of the City of Chicago. The school population showed there were more than 330,000 people living in that district. Of these 165,700 people were examined, 14,282 were diagnosed tubercular, a percentage of 8.6 percent. This is one reason why the number of tuberculosis patients under supervision increased from 10,000 in 1915 to 40,000 in 1921. Subsequently other surveys were made in different parts of the City of Chicago. Late in the fall of 1921 we made a check survey in the same territory in which we had made the original survey in 1916. In that check survey instead of 8.6 percent of new cases, less than 1 percent was found in that same territory.

We have made great progress in the control of this disease during these years. Tuberculosis is not going to continue to recede unless a determined, continued effort is kept up. The lower you get it, the fewer cases there are to find, the more money and more effort it requires to find these cases. There are a great many physicians who do not take the time and effort to make proper diagnosis.

The reason for this are obvious to all of us. The patient comes to a busy doctor, when he does not have the time to make a thorough physical examination, and he either fails to ask them to report at a later hour for a thorough examination or the patient fails to return. This is a matter that we, as physicians, should find a remedy for. We should insist that they come back and have a thorough examination, so that no cases of tuberculosis will be overlooked. We should train our patients for annual physical examinations.

Because of this fact there are many cases of tuberculosis that are not discovered until they have advanced so far that an arrest cannot be affected. They are hidden from the health department, and if open cases, spread these infections to others.

Pasteurization of milk has been one of the greatest factors in the reduction of tuberculosis.

Glandular tuberculosis is very rare in the City of Chicago at the present time.

DR. I. D. RAWLINGS, Springfield: Dr. Wightman's paper was certainly an excellent explanation of the subject based on conditions in Chicago. If conditions downstate were as good as in Chicago we would feel very much pleased over that situation. At the last meeting of the Illinois Tuberculosis Association, in Springfield, I read a paper on "Tuberculosis in Illinois" and I called attention to the fact that in the last year or year and a half there had been more deaths outside the city of Chicago in the state of Illinois than there were reported cases. At the present time we are getting a few more reported cases than we are getting death certificates for the disease. Through our activity in trying to correct this, we were able to drive in some 2,000 more reports than for the preceding year, and the preceding year in this respect was better than the one preceding that, but the cases of tuberculosis are not anywhere nearly as completely reported as they should be; I knew of the advantages and felt that there had been much progress from the hearing boards as described by Dr. Wightman in her paper, and for that reason we have already set in progress the machinery for organizing a hearing board in each county with the hope that we may increase the reporting of cases. The doctors who fail to report their contagious disease cases and all persons, who fail to report these cases until the patient dies, will be called before the Hearing Board and warned. By checking the death certificate against the reported cases, we can easily learn if cases are reported. In fact two such Hearing Boards in two counties of Illinois have been held. Hearing Boards are of great value in educating violators in getting co-operation without prosecution.

We cannot expect with the small amount of money expended for tuberculosis downstate to anywhere equal the record in Chicago where a considerable per capita allotment for the control of tuberculosis is made. Another factor downstate that is very bad is the fact that the majority of the health officers are laymen. It is difficult to get a layman to realize the importance of trying to get cases of tuberculosis reported. If you haven't an active specially trained health officer, it is difficult to get the doctors to report the cases. Illinois unfortunately has 2,700 health jurisdictions, of which approximately 2,400 are presided over by laymen and we cannot expect to get very far in the control of any communicable disease with a situation such as that. It is for this reason we have been active in trying to get a full time county health officer to look after health matters in each county of the state. We think the medical end of the state's welfare require this just as much as the legal affairs. In many of our counties we have not only one State's Attorney but he has one or more assistants whereas we have not even one medical man, with but one exception, who is a full time health officer.

DR. GRACE WIGHTMAN, (closing discussion): I will say that we must congratulate Dr. Rawlings on the splendid revisions and changes he has made in the State rules for the control of tuberculosis. If it were not for some of the provisions of these rules,

our Hearing Board would not be effective; and one important part of the rules is the requirement that physicians report suspect cases of tuberculosis.

When we call a doctor before the Hearing Board and face him with the evidence that a month ago he saw this particular case, that now it is either dead or an advanced case of tuberculosis, and he pleads ignorance of the law or failure to make examination, he has no further excuse when we ask him if he didn't at least suspect tuberculosis.

After all, the Municipal Tuberculosis Sanitarium of Chicago is greatly indebted for its effective work to the assistance of the State Department of Health

PUBLIC HEALTH NURSING IN ILLINOIS*

MRS. MADGE D. REISEMAN, R. N.

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SPRINGFIELD, ILL.

Within the last few years, public health nursing, as one of the essential cogs in the machinery of public health organizations has come to the front so forcefully, that I deem it timely to bring before the medical profession of Illinois, just what public health nursing is doing in our state, and what its aims and aspirations are.

So much misunderstanding and even apprehension have arisen in the minds of a number of medical men, in connection with the activities of the public health nurse that a fair presentation of the subject, may result in clearing the discordant notes found in some communities.

The evolutionary changes that have taken place within the memory of some of us—the gradual development of the district nurse into the modern public health nurse—closely followed the growth of sanitary and medical advances in the public health field.

The history of nursing is lost, one might say, in the shadows of the Pre-Christian era. However we learn through tradition, that India, Egypt, Greece and Rome, the civilizations antedating the Christian era, had nursing care for their sick. In the centuries that followed, with the rise of monastic institutions, more concerted and systematic nursing of the sick was brought about. From the early monasteries (the only centers of nursing through the dark ages), activities fostered by the strong arm of the church, through the great upheaval of the crusades, nursing came into greater prominence.

*Read at annual meeting of Illinois State Medical Society, Decatur, Illinois, May 15, 1923.

Pestilence and war reaped their usual harvest and here we find the first instance of nursing organizations, the founding of the order of St. John of Jerusalem. From this period on, nursing organizations became more numerous many of them associated with the church.

In the year 1849 Pastor Fleidner brought over from Germany four deaconesses who established the first nursing unit in Pittsburgh. Of course the development of nursing in the U. S. was directly influenced by the work being done in Europe. The year 1877 saw the first American organized nursing unit, brought about by the efforts of the Women's Department of the New York City Mission. From this date the movement spread westward and in 1890 there were 21 organizations employing visiting nurses in the United States.

These organizations had no connection with each other and no common standard of efficiency, either in work or in the educational requirement of the nurses. Any efforts towards union, seemed to only widen the distance which separated graduates of different schools. Each city and town started its nursing work in its own way.

The scope of activities of all these organizations was the care of the sick. Preventive work however was beginning to occupy the best minds in the ranks of the medical profession.

After a month of experimental work at the Henry Street Settlement, the city of New York established school nursing and in 1903 Tuberculosis Nursing was initiated.

And so the medical profession and the general public in Illinois came to know the value of public health nursing from its neighbors and the idea of a nursing service in Illinois gained favor.

The pioneer work of the public health nursing movement was instituted almost exclusively in our big cities, but this movement became countrywide extending from cities into villages and counties—reaching in the last 10 years the greatest stage of development. Public health nursing in Illinois began by giving nursing care to the sick poor. Nothing was done to prevent illness, so the nurses' task was endless.

This was the first principle of public health nursing—1. The care of the sick in the home.

Medical science then pointed out that much illness could be *prevented* and that it was cheaper,

wiser and more humane to prevent illness than to cure it.

Nurses quickly accepted and practised these new teachings and this led to the second principle of public health nursing—2. The *prevention* of illness.

The third principle of public health nursing and the outstanding principle of all progressive health work is the promotion of public health.

A development which followed was the realization that the individual is at the highest degree of effectiveness, not only when he is free from disease, but when he is in good health, when he has life abundant. And so the guiding principles in public health nursing today are, care of the sick, prevention of illness and promotion of health.

While the second and third principles are receiving the greater emphasis in health work, the first principle must ever be part of the public health nursing program. The method of approach in care of the sick however is changed—instead of being purely a palliative measure it is an educational process. Demonstration lessons in the care of the sick and instruction in the importance of convalescent care are given. Sickness in the family is turned to good account by teaching personal and family hygiene, by urging the development of health habits and so encouraging health promotion.

Families are thus taught to share the responsibility and illness is reduced, through educational processes.

Among the significant developments of public health nursing in Illinois are the increasing demand for the public health nurse and the increasing tendency to pay for her services out of public funds. Townships, cities and counties through the State are contributing public funds for the support of the public health nurse.

More and more we are recognising that nursing has assumed the dignity of a profession which appeals to the very finest type of woman, a profession in which special knowledge is absolutely indispensable, in order that its members may fulfill their obligation to society.

"Public Health Nurse" is a term applied to the nurse engaged in any branch of public health work.

The tuberculosis nurse, the visiting nurse, the infant welfare nurse, the school nurse are all public health nurses.

She may be engaged in any one of these special

branches or she may be giving a generalized service including all phases of public health nursing affecting the well being of the family.

Generally speaking the nurses working in small towns and counties follow a generalized public health nursing program though emphasizing as a rule some special phase such as school or tuberculosis nursing.

In Illinois there is a marked tendency toward a generalized program of public health nursing though one finds strong organizations in some cities doing highly specialized work such as maternity, child welfare, etc.

Outside Chicago there are 305 nurses engaged in public health nursing in the various counties and about 77 of these nurses give general nursing service. The remainder for the most part specialize in school or tuberculosis nursing. Twenty nurses are employed by industrial concerns, while only seven give their entire time to infant welfare work. Thirty-seven counties have but one nurse to cover the entire territory of each, and twenty-three counties have no public health nursing service of any kind.

The larger cities have fairly adequate instructive public health nursing services already established but in the rural districts where the need is very great the service is woefully lacking.

The Illinois Tuberculosis Association and the Red Cross Organization and other extra governmental agencies have spent their resources in establishing public health nurses in local communities and at the present time there are in the field about 74 nurses employed by tuberculosis associations and about 20 nurses employed by the American Red Cross Society. Unfortunately limited funds place a definite limit on the extent to which these extra governmental agencies can meet the need for public health nursing services in the State.

However, there is no doubt that before very long the protection of the health of the community through public health nursing will be recognized as a public function for which public funds will be appropriated just as they are today for public education and for police and fire protection. Boards of education, county boards of supervisors, and sanatorium boards in various counties in the State contribute to the support of about 200 public health nurses. This encouraging situation is due to the untiring efforts of the Director of Public Health, Dr. I. D. Rawlings,

to interest individuals and communities in the attainment and maintenance of individual and community health, so, naturally, a better standard of living founded on moral and physical health has become the watchword of the community.

As public health nursing has been demonstrated as one of the most effective means of protecting community health, the expression of community interest in its betterment is usually the employment of a public health nurse. Since public health nursing owes its success as an instrument of disease prevention to the instruction of the individual in his home environment and since, in our social structure the family unit must be maintained it is important that the foundation service be a generalized nursing service. Let us consider a community health program in operation in Illinois. First in importance is maternal and child welfare care. This phase of public health nursing is of the greatest importance. It is the direct link between the physician and the home. The nurse who undertakes this work must have a training that fits her to do good nursing work, and recognize good medical work. The nurse who has both the technique and the ethics of her profession, plus intelligence and a desire to serve will be of inestimable value to any community where she may be placed.

Good maternity work means that the people and the doctor are educated to use the public health nurse in every case where a graduate nurse is not employed by the family.

If a doctor needs the assistance of a trained nurse in the home that has every facility for comfort and asepsis, how much greater the need when there is nothing at hand and no money to spend for anything but the bare necessities of life? Everything possible must be done to protect the mother in this time of need. A doctor aided by a well trained nurse who knows the family can do much to make the advent of the baby less of a tragedy than is sometimes the case. Care of the baby goes hand in hand with the care of the mother. Here the public health nurse is the connecting link between medical science and mother love. The nurse interprets scientific truths on child care to the mother in terms of the home. Ignorance of the proper treatment is the biggest factor in the high infant death rate and by informing the mother of the latest scientific principles of child care, many little lives are

saved. Child welfare care includes general oversight of the children till they enter school.

Here the nurse works with and for the school department, hand in hand with the local physicians, cooperating with the health department and every agency devoted to civic improvement.

The school nurse uses her knowledge of the health and industrial laws affecting children to advantage in education and in enforcing preventive measures. Close and constant supervision of school children for the purpose of detecting and preventing communicable disease among them is an essential part of every school system of inspection.

A community by making education compulsory assumes responsibility for providing a decent, clean and wholesome environment for the children during school hours, and it is responsible for the maintenance of their health during that period.

In this country the public school has in daily session the larger part of the next generation—financiers, politicians, industrial leaders, labor leaders, teachers, thinkers and perhaps tramps.

From this melting pot humanity is molded well or ill according as we, the present generation meet our civic responsibilities.

The school nurse brings to the home, to the parents and children many lessons in hygiene, and through her efforts many physical defects are remedied before the child is forced to fall out of line to take its place with the defective or the deficient.

Detection and correction of orthopedic, cardiac, pulmonary, nasal, and visual defects during early school life means healthier children for our high school and young men and women better prepared mentally and physically to meet the demands of college life.

The school nurse teaches the value of health to children, and parents so helping them to realize that the attainment of health is worth some sacrifice on their part.

The nurse strengthens the hands of the teacher and physician by her visit into the homes, and by doing all in her power to make the American school an institution where bodies as well as brains are developed for a life of usefulness—with this thought in mind "the child of today is the man of tomorrow."

The public health nurse follows up the discovered case of tuberculosis and is on the alert for the undiscovered case—not only in the patient's family but in the community as well.

She follows up patients from the Doctor's office, the dispensary and the hospital and teaches them to follow out the orders which will restore them to health, and minimize the danger of spreading the disease in the family and community.

The attitude of the local industries toward public health measures is of great importance. It is to the advantage of every employer to have a clean, sanitary environment within the shop, but it is of infinitely greater importance that the workmen should come from clean, well kept homes and that they and their families be free from disease. The employer can do much within his shop but he has little influence beyond its walls, so the public health nurse is the natural resource for really efficient industrial welfare work.

The ideal of public health nursing is to cooperate with the private physician, to assist him in his work in the community, to serve the people and awaken them to the fact that health is their birthright and their greatest asset, for it makes all things possible, but like everything that depends on intelligent cooperation, the demand for a clean, healthy community must come from its citizens.

In an effort to correlate and co-ordinate existing nursing services the Director of Public Health, Dr. Isaac D. Rawlings, through the Division of Child Hygiene and Public Health Nursing, has organized public health associations throughout the State. These associations are composed of public health nurses, physicians and lay people sponsoring public health work.

The object of the public health associations is to point the way to such an arrangement of the work that there may be no duplication, to assist and advise public health nurses in the field, to standardize public health nursing services, to aid employing groups in securing qualified public health nurses and to interest lay people in the public health campaign. Public meetings are held in various communities (under the auspices of the public health association) to which the

general public are invited. Health problems pertaining to the community are discussed and active interest aroused in the "Safe Milk Campaign," Birth Registration, the Anti-tuberculosis Campaign and other public health measures.

The State supervising nurse, the Chief District Health Superintendent and the health superintendent for that particular district attend these meetings to advise and instruct public health nurses and others in their work in the field, in their relation to the practising physician, and to all agencies devoted to community betterment.

The supervising nurse of the State Department of Public Health has general supervision over public health nursing in the State.

The State Tuberculosis Association and the Red Cross Organization each have a supervisor of their respective nursing service.

The State Supervisor of nursing together with the supervising nurse from the Red Cross and Tuberculosis Association constitute a supervisory and advisory body of nurses for the State. Nurses who would prepare themselves to meet the demands of the future must be health teachers; if they would be educators they themselves must be educated since health is after all largely a matter of education.

Perhaps the most important contributions public health nurses make to the solution of health problems is to try to recognize facts as they are, to remember that progress comes only from constant effort, and that in order to realize the full satisfaction that makes life worth while we must disregard selfish personal interests, admit our limitations and combat with vigor any attempt to impose the same limitations on those to whom we expect to hand on the torch.

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DISCUSSION

DR. H. A. CABLES, E. St. Louis: This would be a very excellent paper to read before every public health worker in the state. It puts public health nursing upon a ground on which there can be no question of co-operation between the public health nurse and the physicians as a body. The public health nurse, more so than the ordinary private nurse, is required to exercise the greatest diplomacy and tact of any profession I know of, standing as she does between the physician on the one side and the public upon the other. It is possible that sometimes there grows up between the public health nurse and the local physicians a discordant note, which perhaps if traced back

is due to the lack of understanding. The high ideal in the outline of that paper is extremely commendable and all public health nurses in the state of Illinois that follow out the precept of the paper can not help but meet with the support of the medical profession as a body, in every locality.

The public health nurse is almost a necessity, especially in manufacturing and industrial centers. Out in the sparsely settled and rural districts they do not realize, perhaps, the usefulness and necessity of the public health nurse. In your industrial centers you have a large population that is living on the proverbial hand to mouth proposition and they can only live that way so long as the family is well. Illness comes into the family to curtail the income of that family and they are in a financial position from which they can never recover if they have to pay for all the things necessary to regain health. It seems odd in industrial centers that the public seems to violate willfully and arrogantly every law pertaining to the retention of health. We can not say at all times that the public rushes into the disease from ignorance. The public has a limited view of the matter of health, and I would state as a matter of opinion, that the public knowledge is low. They seem to rush headlong regardless of the consequences. In the homes in industrial centers where it is necessary for the ministration of one who is trained in proper administration, the public health nurse is absolutely necessary.

There is another thing that struck me about that paper, because I have had occasion to work in connection with the visiting nurses of my county. I would like every nurse to know, and I am going to tell them when I get back home, that is the plan of going into the home and not only telling the mothers but *showing* them how to do things. We have not many of those kind of nurses but many of the others who believe in telling them how it ought to be done and do not show them. There is a big difference. This has been recognized by the Mayos, and the only way they can teach people to follow up the instructions on diet, is to take them into the kitchen and let them see how the food is prepared, see how it is done and not be told how, and I consider the nurses going into the home and showing the mothers how to do things, taking care of the sick person and preparing the food, *showing them how*, that is the point.

DR. J. M. FURSTMAN, Bloomington, Ill.: The most important period of child life is what we term the pre-school age period. Under our generalized nursing plan a nurse has the opportunity of seeing the children before they enter school and a great deal of the work done in schools now could be done away with. At first it was thought the milk problem was the main solution in reducing your infant death rate. Improving the milk supply did not accomplish much until the infant welfare nurse went into the home and showed the mothers how to take care of that child, prepare the feedings and properly bathe and dress the youngster. The nursing system in communities you can favorably compare with the fire alarm system. If you have an efficient fire de-

partment and your fire alarm system is not working your department can not do good work. Your nurse is the alarm in the health department.

There are some doctors who take offense at the work the nurses are doing. I can frankly state that after I have had a nurse in the service for 6 months if she is a competent nurse, with all due respect to the medical profession, that nurse becomes a lot more competent, more efficient to diagnose these cases than the average physician. They are not permitted to make a diagnosis, however. They are in a position to get them into early stages of a disease and see that those cases are properly isolated. How are we going to get people interested, in taking up public health nursing? We are trying to solve the plan in Peoria by affiliating the nursing system with the hospitals. We get a nurse from the hospital for training into the field, get them to see the work as they will come into contact with it after they leave the hospital. It is an entirely different problem. Most of the courses offered in public health schools are theoretic courses and after they get out they have to get the practical training. I think it ought to be and I think it will be in the future a compulsory part of the nurse's curriculum to have a certain amount of public health work.

DR. GRACE WIGHTMAN, Chicago: I was very much interested in Mrs. Reiseman's paper. In Chicago we have about 500 public health nurses, 160 on the field staff of the Municipal Tuberculosis Sanitarium, 125 in the Health Department, 100 in the Visiting Nurse Association, about 40 in the Infant Welfare and between 40 and 50 in the industrial.

I was interested in what Mrs. Reiseman said about the nurse having to become a health teacher. This, I feel, is the field that we must develop in the future of public health nursing, that it is the education that the nurse must have and be prepared to do before she can really become an effective public health nurse; and here I find is the greatest lack in the nurses' training. The nurses who come to us have had the usual hospital training for bedside nursing, registered nurses, all of them. Mrs. Reiseman stated that nurses were not trained to do practical things; we find they are lacking in the theoretical side of the work, that we have to give them courses in dietetics, child welfare and hygiene work, teach them how to give health lessons and demonstrations, psychology and methods of approach to families.

The Doctor has spoken of the resistance of the medical profession toward the public health nurse. We have very few complaints in our organization in Chicago from that source. I don't believe more than two or three a month come into the office about the interference of the nurse in tuberculosis cases. When we investigate those complaints we invariably find the patient has misrepresented the nurse to the doctor, and when we explain the nurse's side of the case it is usually cleared up harmoniously.

DR. JOHN DILL ROBERTSON, Chicago: I am very much impressed with that paper. It is excellent.

Dr. Wightman, who has just spoken, also echoes my sentiments. She has charge of 160 nurses, 25 physicians, and 40,000 patients. I do not know how many thousand calls they make in a year.

Why should a nurse who has been working in a hospital, devoting one-half of her time to housekeeping for the sick and the other half to assisting the doctor in surgical and medical cases, know anything about public health nursing? Very few training schools teach anything about public health nursing. We found in the Health Department, where we had school nurses, in the contagious disease hospital, where we had graduate nurses, and in tuberculosis work, that we had to train these nurses all over for special work. You can not take trained nurses from 90 per cent of our registered hospitals and put them into contagious disease hospitals, without getting a high cross infection mark. They have to be trained for this special service. The same is true of those you put into field work.

There is another group of nurses I want to speak about. During the first influenza epidemic in Chicago we found there was a woeful shortage of nurses. We did not have a sufficient number of nurses to take care of our sick. More and more the nurses who graduate from our training schools for nursing are going into public health nursing. While it is true that the graduate nurse at the present time is getting at least \$7 per day for her services, she prefers to take a position at \$110 a month, to begin with, in public health service, her reason for this being that the hours are shorter, giving her regular and sufficient time for sleep and recreation. For more than 8 months each year in Chicago there are not nearly sufficient nurses to fill the calls for private nursing duty. Everyone who has given any study to the question knows that at least 94 per cent of the people are unable to afford a trained nurse at \$7 per day. On account of the fact that a majority of trained nurses do not care to nurse the sick in the homes, it is necessary to provide someone to do home nursing.

The great influenza epidemic in Chicago demonstrated what a deplorable condition the homes of the sick were left in under such circumstances, and this was the reason for the Chicago Training School for Home and Public Health Nursing, where more than 11,000 housewives, clerks, stenographers, school teachers, etc., have taken and received a certificate, certifying that they have completed this 8-weeks' home nursing training.

The second epidemic of influenza in Chicago demonstrated the usefulness of this training, when, after it was over, our records showed that these nurses had cared for some 12,000 sick.

In response to a criticism made against this institution, the Training School conducted an experiment lasting nearly three years, in which approximately 4,000 patients were admitted to a hospital provided for this experiment, known as the Home Nurses' Hospital, and were cared for by women who had taken the 8-weeks' course. This hospital was under my personal supervision, and surgical work consisted of all sorts of major operations, obstetrical cases, and a large

number of nose and throat operations. Surgical care was given by these graduates. The experiment was conducted without the aid of any trained nurses. The woman in charge of this hospital had had no surgical experience except that which she had received from the Home Nurses' School. I was assisted in this work by my associate, Dr. Ira B. Robertson. Dr. Edwin B. Wachlin was the house physician of the Home Nurses' Hospital. During the time this hospital was conducted there were but 8 deaths out of 4,000 patients, making a percentage of .2 of 1%. During the year 1921 the percentage of deaths in Chicago hospitals was 2%. We had no accidents of any kind or description, no patient was burned, no patient received a dose of poison by mistake, no patient jumped out of the window, and the results were all that could have been hoped for. However, the only object in conducting this hospital for this period was to prove the fact that giving surgical nursing was housekeeping for the sick, and that any woman with good common sense, who used ordinary care and diligence, under the direction of a physician, would be serviceably sound for this duty. The object was not to in any way reflect upon trained nurses, and was conducted because the training that these women were given for home nursing was questioned by one of our enemies.

Someone said to me that a "little bit of knowledge was dangerous." I heartily agreed with them, and came back with the statement that these nurses did not have "A little bit of medical knowledge," and that they did not know any better than to do what they were told to do in the way they were told to do it.

At the present time not to exceed 5% of the 11,000 women who have taken this home nursing course are doing nursing for pay. The large majority of them took this course so that they might be able to care for their own sick in their own home. The criticism is made that women who go out for pay sometimes get a larger fee than a regular trained nurse. This is a matter that can not be controlled and a matter between the home nurse and the people who employ her. There are a number of people who are willing to pay the home nurses more money than perhaps they are entitled to. I have reasoned with some of these, and they have replied by saying that when these women come into the home, care for a sick patient, do part of the housework, prepare the meals for one or two others, on account of the mother or housekeeper being sick abed, in other words, do double duty as maid and home nurse, that they feel they are entitled to all that they give them. These home nurses are instructed during their course that they are being prepared for home nursing only, that they do not know anything about medicine or diagnosis, that they are to act only as an assistant to the physician and to carry out explicitly any orders that they may give them. They are also told that they should not hesitate to do whatever little housekeeping is necessary to be done in the homes of this class of people, who, in most instances, can not afford to pay for a maid as well as someone to care for the sick.

THE ILLINOIS CAMPAIGN FOR EDUCATION OF THE LAY PUBLIC *

A BRIEF EXPLANATION OF WHAT THE PHYSICIANS IN THE STATE OF ILLINOIS ARE PLANNING TO DO FOR THE BENEFIT OF THE PUBLIC HEALTH AND THE CONSERVATION OF THE RIGHTS OF THE PROFESSION

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The practice of medicine is drifting away from the doctors and into the hands of uneducated and unscrupulous individuals.

For this menace to public welfare and the advancement of science, partially, the profession itself is to blame. These are days of educative ubiquity, and the medical profession has fallen out of step. On all sides the blatant and persistent publicity of incompetents exalts their bogus skill, in many varieties and in many measures.

Ethical proscriptions of the medical confraternity inhibit any self-exploitation, either of the men or of the mother science that they serve.

Besieged on all sides by the cry of the charlatan, the sick man hears and believes to his own undoing. He does not know the difference between what is false and what is true. He hears vaguely of wonderful progress and miraculous "research discoveries" made by medical science.

But the dignified reticence observed by medical science works to its own undoing. The charlatan seizes upon the name, and perhaps the method, of specific progress and uses it to delude the ill and unwary. The sick man does not know where to find efficient competency, even if he knows of its existence. In other words, the quack sits in plain sight with his shingle out, while medical science hides its light under a bushel.

To place before the citizenry of the country a knowledge of what is being done by reputable medical men, and how the everyday man can avail himself of scientific advances both for his personal and for the public health, is an added task laid upon the shoulders of the doctors. It is a new contingency of the complex civilization. The quacks and charlatans, of course, flourish from their appeals to personal egotism, through

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a specious suggestion of the possibilities of self-medication, and through their purchasing power of billboards and similar avenues of distribution. Such common ways and means, of course, are beyond the pale from the point of ethical consideration. But the way that must be followed, the only path possible for the conservation of the public health and welfare and the future of medicine, lies in a generous, simple, but widespread revelation of the truth about medicine, what it has done, is doing and will be able to do, for the benefit of suffering humanity.

If the science of medicine is to live up to its ideals and purposes, it must fight these enemies of the public health and national welfare with their own fire, and in the terms of their own language. Not by false promise or sanguine deceptions such as are the charlatan's stock in trade, but rather by plain statements of scientific fact, can the medical profession save the national health from destruction, through its justified promises of alleviation, and even possible cures, of physical misery among a suffering public.

The way in which to bring this knowledge to the public has been causing much deliberation in the Illinois State Medical Society. The future of medicine is clamoring for help.

Another point under consideration is the reinforcement of the profession. Standards of medical education have been raised from time to time until at present, the requirements are so high, that a man can not enter the practice of medicine until he has reached approximately twenty-seven years of age. This means, too, that he will have expended upwards of \$25,000 of money already earned to secure his medical education, to say nothing of the loss of another \$25,000 potential profits that he might have been making from the time he was sixteen years of age, while working as a bricklayer, at wages far in excess of what the average doctor makes in practice of medicine.

Pit this against the exponents of the cults and systems who are being advertised for in all the cheaper class of magazines and periodicals, to "take an eight weeks' course and learn to be a semekindoranother-ic and get a doctor's certificate." Brakemen, plumbers, and even ambitious barbers are studying short courses of weird systems at home, nights and noon times, and actu-

ally clamoring for recognition as scientific medical men. The public is not yet awake to what it needs for its own protection. The lay education campaign of the Illinois State Medical Society hopes to explain a few of these items to the deluded ones.

Another momentous point lies in the fact that the trend of modern education has left its mark upon the younger generation of doctors, in that these younger men forget that the routine of life lies in small things. More than seventy-five per cent of human ailments are to be classed accurately as temporary trivialities. Now these younger doctors, for the most part, have ambitious eyes fixed upon the great moments of medicine with almost complete disregard of the everlasting minoritics. Intent upon hopes of the critical laparotomy, or other serious surgical operation, idealistic young physicians are prone to neglect the every day need of the ailing public. *And right here is the loophole through which the bogus practitioner creeps to find the foothold by which he sometimes dislodges and supersedes the skilled man.* We are educating specialists, and not doctors.

Out of the inattention of scientific men for ordinary wants of an indisposed people, spring and flourish the mass of cults and of mock medical systems that insidiously deprives the sick of the available expert medical attention. In other words, it is the seeming indifference of physicians towards the annoying ailments of prevalence and frequency that forces the people to seek care and a sympathetic ear from the pseudists.

Now a powerful appeal of the false healers is the seeming shrewd fashion in which these dispensers of bunk appear to take the patients into the full confidence of their supposedly wonderful systems. The subtlety of this suggestion to personal vanity is incalculable.

Recognizing these perils the committee for publicity of the Illinois State Medical Society is forced to consider also, contributory menaces to the national welfare and the public health that have arisen from this apathetic negligence on the part of the medical profession. These include:

1. Lay dictation of medicine, and the centralization of administrative power in non-scientific authority, and in non-medical people.
2. Fiat medical practice, and the usurpation of medical rights by non-medical people.
3. The insolences of overtrained nurses, who

attempt to practice medicine instead of restricting themselves to their own orbit.

4. Hospitalization of the sick at the merey of pecuniary considerations.

5. The introduction of dangerous and restrictive legislation such as the Harrison Drug act and the Sheppard-Towner Act; the numerous chiropractic and osteopathic bills.

Although the fight is to be waged from Illinois' standpoint, yet the fight is not for Illinois alone. The State has become only a type state with every other state in the Union feeling the menace with equal weight.

Outlining briefly what the publicity committee is aiming at, the work may be divided into two parts, the first of which consists in the necessary collecting of money with which to pay the expenses of the campaign and the second the placing of the campaign in the very center of the public eye.

In Illinois direct solicitation was made of all physicians and surgeons. A minimum contribution of \$10 was asked for, and more was suggested. Work of this sort costs money and the cults have found this out. They pay millions of dollars annually. For an ethical campaign such as this must be the expense is necessary but different. Cults and their kind must pay for every inch of space in a newspaper, magazine, or on a billboard. The medical profession deals, in the record of its achievements, with that sacred element of modern life, known as *news*—in other words, in information of accurate interest and benefit to the human race, whether as a guide, or as a warning, all of which is based upon personal experience or scientific fact.

Thousands of avenues of distribution are opened to the purveyors of such elucidative data. The space that this data can secure from the public and lay press, and other distributive centers is not for sale at any price. No quack can secure that hearing, if it is known that he is a quack. It is up to the medical profession to get busy and tell the truth about itself so that the public will know the difference between skill and bunk, just as it has learned the difference between tin and silver, cotton and wool. In getting in the funds for a campaign it will be found that the lay public is not the only section of the population that needs education. There are many physicians who need a little education

themselves to have their eyes opened as to the speed and completeness with which medicine is drifting out of the hands of the doctors into most questionable harbors.

Letters, editorials in the state medical journal, and pledge cards were handed to every doctor in the state of Illinois. When a physician did not respond he was tactfully reminded of what was going on. Some of the statutory crimes of the decade against medicine were called to his attention. A large percentage of the doctors of the state have sent in their pledge cards accompanied by cash or check. Others are still being gently reminded. It is only fair to state that as a general thing the doctors were enthusiastic and heartily in favor of the idea.

The collections need to be increased, but the need for the work is being realized more keenly every day.

With the collection of funds continuing the committee is turning its mind to other ideas. One still dominant, however, is the hope that some philanthropist could see the exigency here and give or bequeath an amount of money for the financing of this vital and unselfish propaganda, so necessary to the people at present caught as all nations are, in the vise of radicalism and reaction.

Organization has become the backbone of any current campaign.

The committee outlines then that the aims of its first year of work will include:

1. Classification and centralization of the resources of the association in point of publicity.

(a) Men engaged in research work of public interest.

(b) Men tangent to the lay press, the lecture platform, stage and other centers of public distribution.

(c) Medical men in the public eye, whose spoken or written word has a publicity value.

2. Establishment of general publicity media for news and feature material, which shall tend to:

(a) Correct misinformation on medical subjects.

(b) Place the profession more conspicuously in the lay press.

(c) Present an adequate background for additional protective legislation.

3. Enlistment of active co-operation from the

county societies in the state for the purpose of:

(a) Making the campaign an affair of every doctor, rather than of a committee.

(b) Inviting participatory rather than detached criticism.

(c) Securing for major news a state wide diffusion that will exceed syndicate possibilities.

(d) Utilizing local detail and experience for the feature work of the central bureau.

II. For the accomplishment of this, the association has appointed a trained publicity director with instructions to combine the functions of press agent and of evangelist.

The "press agent" part of this director's duties should include:

1. Preparation of feature articles for use in magazines with a substantial circulation in Illinois syndicates, state and local publications.

2. Preparation of news stories based upon current activities of the association that will be suitable for use by syndicates, press associations and city newspapers, and for adaptation by country newspapers.

3. Establishment of press contacts.

4. Preparation of material for use by physicians who will speak before lay organizations.

5. Research work in current medical history, background work of significance and suitable media for such facts.

6. The general contact point between the lay press and the profession in the state of Illinois.

When it is time to play the evangelist, the duties attendant upon this phase of the work should include:

1. Personal conference with county societies throughout the state at some time during the coming year in order to:

(a) Convince the membership of these branches of the necessity for and the suitability of the campaign;

(b) Report progress of the "press agent" work;

(c) Analyze local problems.

(d) Establish procedure for the handling of local publicity situations;

(e) Arrange for local society to use material supplied from central press bureau and to function for local media;

(f) Enlist participation in campaign from the local branch membership.

2. Establishment of central bureau to provide

speakers and to create opportunities for these speakers to discuss subjects worthy of and suitable for presentation in a popular vein to lay audiences.

3. Establishment of organization contacts to co-ordinate with the lay press, and the inauguration of popular "drives" on projects designated by the governing publicity committee.

The most captious of critics will observe that this programme is one that can be carried out with all due consideration for the traditions of self-respecting medicine. Dignity, truth and redemption of the public welfare from the quagmires of bunk will be the fruits of the campaign. The general public is hungry for news of the functions of the ever troublesome body and the simple way in which it may be cared for. Proof of this is found in the tremendous amount of "medical answers" carried in every daily periodical in the country. Medicine is the most destructive of professions. Working on its elemental doctrine of prophylaxis it works to its own undoing, but there is much yet to be done before the race will have reached the millennium of physical perfection. If something is not done at once to restrict the outrages perpetrated by the pseudo-medical-incompetents, centuries of medical research and professional devotion will go for naught.

The doctor as an individual is caught between two fires. In addition to the work of the bunco-medics, the increasing knowledge of specifics for standardized diseases has brought into play a vast possibility for self-medication, that an egotistic public has availed itself of with much avidity. The fine point of diagnosis is too often overlooked. One of the crimes against it is the maudlin cry of the chiropractic that any ailment under the sun can be diagnosed from a wiggle of the spine. If the claim were for any ailment under the sod, there would be no argument, but not until the death rate shows an alarming increase will the public awake, and that too late.

Hampered by laws that make it impossible for a physician to prescribe certain drugs when and how he wishes, but only as a few non-medical lawmakers think he should, the doctor is still doing his best. Would the Harrison Narcotic law, the inhibitions of Volstead act and a dozen other insanities be on the statute books

of the country today if the public and the physicians, too, had been aware of what was meant? Though never at any time a user of alcoholics, tobacco, or other narcotics, the speaker has had an ample opportunity to feel the whip of fiat medical practice.

Dr. George E. Vincent, an able educator, has said "In democratic countries like the United States, Great Britain, and Canada and Switzerland, the popular estimate of the social value of science, the general esteem in which scientific men are held, the willingness of legislative bodies and of private citizens to supply funds, and the readiness of leaders and people to accept and apply the results of scientific research are determining factors in the progress of knowledge. Unless the leaders of opinion and a substantial proportion of the adult population appreciate the aims and methods of science, understand something of the value of evidence, are familiar with reasoning processes, and are prepared to recognize the authority of disinterested experts, science can not attain the place it deserves, or render the service of which it is capable. Chemical, electrical and mechanical engineers have won distinction and recognition because their work is tangible and convincing both to the trained leader and to the man in the street. The medical scientist, with vastly more complex problems to solve, must ask for the support of a much more intelligent imagination and sympathetic form of public opinion."

It is the creation and support of such a public opinion that is the aim of the lay educational campaign of the Illinois State Medical Society.

25 E. Washington St.

X-RAY AS AN ADVANCE IN THE TREATMENT OF IMPAIRED HEARING.*

(A PRELIMINARY STUDY)

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Impaired hearing represents a medico-economic entity of vast proportions. It is a condition responsible for much disability; and, unfortunately, it has hitherto largely defied the skill of the otologic practitioner. Many expedients have been introduced from time to time,

new modes of treatment, purporting to afford greater benefits than those derived from the generally recognized measures which have established themselves as orthodox; but the remorseless test of clinical experience has served only to eliminate, gradually but surely, each and all of these ephemeral innovations.

I hope I am not altogether unmindful of this sobering fact, as I undertake to present, for your considerations today, certain findings which at present can claim nothing better than an empirical findings wholly with contempt. For all scientific theory and analysis, while it steadfastly sets before itself the goal of an explanation in ultimate terms, has and can have no other starting point that just such isolated and empirical items of information. Empirical knowledge that has been carefully verified, that has passed the test of practical utility, has a meaning and a suggestiveness which no progressive scientist can afford to ignore."

Better to understand the discussion that follows, it will perhaps be useful to restate the concept of deafness, with a view to emphasizing an aspect which is often relatively neglected in clinical practice. Hearing, as a sensory function is conditioned by two readily distinguishable sets of factors within the organism. The first comprises a peripheral group of anatomical structures that in their totality form the receiving and conducting mechanism for the sound stimuli that reach the organism from the environment. The diseases ordinarily affecting this mechanism are familiar to the profession. The pathological conditions to which it is subject have been adequately described in many excellent treatises. It is these diseases against which our orthodox methods of treatment have been mainly directed; and in so far as they have proved to be the chief responsible factors, and in proportion as trained skill has been available for their correction, a relatively satisfactory degree of success has been achieved. But considering the large number of cases treated, the instances in which success has been achieved have proved disappointingly few.

The second set of factors, which I have come to regard as in many cases the more important, comprises the mechanism of the auditory nerve, the cortical centers associated therewith in the superior-temporal convolutions and elsewhere, together with all the known and unknown condi-

*Read before the American Society of Electrotherapeutics, Atlantic City, N. J., September 20, 1923.

tions of efficient transmission and registration in these structures. It is a curious fact, which may or may not have some bearing upon our problem, that the auditory nerve differs from the optic and the olfactory nerve, in having a peripheral as well as a central origin. Both the optic and the olfactory nerves represent direct processes from the brain, while the auditory nerve is the sensory-dorsal branch of a spinal-cranial nerve, the motorventral branch of which controls the facial muscles. Thus the auditory nerve originates in part also from the cells of the head-plate, that is, the fibrous layer of the skin; an origin which is shared also by the membranous, cartilaginous and bony coverings of the ear labyrinth. Moreover, in fishes, and in the other lower forms of vertebrates, no special apparatus exists for the conveyance of sound and no external and middle ear, but only a labyrinth situated within the skull. These considerations may at any rate serve to suggest that perhaps there are special reasons in the case of the hearing function, over and above those which apply to all the senses alike, for emphasizing the importance of the neural and associated cortical mechanism, and for avoiding if possible a mode of treatment which too narrowly focuses its attention upon the anatomical and histological perfection of the receiving mechanism.

Impaired hearing, therefore, involves a two-fold pathology:

(a) Histo-pathological changes in any part of the structures to the initial reception and conduction of the sound stimuli;

(b) Ultra-histological changes, possibly, affecting the bio-physical integrity of the neural and cortical mechanism which is the final condition of a conscious interpretation of these sound stimuli by the organism.

An individual presenting himself for examination and treatment directed to a condition of deafness should, generally speaking, be submitted to an established routine that will insure a reasonably accurate survey and appraisal of his auditory sensibility. Various acoumeters, such as the Pollitzer, Barret or Barany noise apparatus, the Galton whistle, the numerous tuning fork tests, including the Rinne, Weber, Bing, Schawbach and Gille, may be utilized. While valuable as limited diagnostic criteria, these measures of hearing acumen, owing to their

artificial character and their failure to reproduce all the concrete conditions of the normal hearing function, are somewhat inadequate as practical tests, and though they are taught as a part of the otologic curriculum, it is the general opinion of practitioners that they fail to meet their full needs. Perhaps the best single test from the viewpoint of simplicity and desirability, is the distance measure of the perception of the spoken and whispered voice. The voice, however, is difficult to standardize; the many methods which have been proposed for this purpose have been failures: fortunately, the problem does not have to be solved with absolute mechanical precision. A skilled otologist can usually control his whispered and spoken voice with sufficient approximate accuracy to determine whether the hearing of a subject has materially improved. And what is still more important, the patient is thoroughly cognizant of the many voices among his acquaintances that he understands; so that he notes quickly any real progress made by the treatment, promptly observing that more conversation is correctly perceived and interpreted.

Following this quantitative survey of the patient's audition, the sound receiving and sound conducting apparatus is inspected with appropriate thoroughness. Anatomical deviations are noted; histopathological changes are inquired into: and on the basis of this examination, the indicated corrective procedure, as approved and established by the experience of the profession, is utilized to the fullest extent, in the effort to restore normal conditions. An integral part of the examination-routine should include the making of an x-ray plate, and a survey of the paranasal sinuses and mastoids; for pathology in these hidden recesses quite often sponsors a deaf condition that is promptly relieved when adequate attention is devoted to paranasal or mastoid aberrancy.

As the result of such routine examinations, and the conscientious use of the indicated appropriate therapeutic interventions, a very small number of deaf persons are materially benefited. But regardless of the character of the pristine etiologic pathology, the impaired hearing of many is virtually unimproved.

In the course of the systematic examination of patients, it has for years been my custom to include in all appropriate instances a complete radiographic examination of the paranasal sin-

uses and mastoids. It frequently happened after one of these radiographic surveys that patients would volunteer the information that their impaired hearing, which was not the trouble that brought them to my care in the first place, had been markedly relieved; and they asked if it were a property of x-rays to correct deafness. A search of the literature brought to light some studies by Jaulin, Orloff and Siebenmann. These workers, experimenting independently of one another, had come to the conclusion that x-rays benefit deaf individuals. These studies are unfortunately incomplete, and convey inadequate information as to the quantity and quality of the radiation used, or of the best method of applying it; so that their contributions served only to confirm my empirically derived impression, that the casually observed relation between the submission to x-ray exposures and the improvement of impaired hearing bore a deep significance, worthy of serious study and investigation.

In this country many have exposed nerve and brain structures to the x-ray; but owing to the very slight changes in the tissues revealed by microscopic examination afterwards, they have generally arrived at the conclusion that x-rays are without effect, or exert at most a minimal effect, upon nerve elements. Nevertheless, careful inquiry and auditory "aura" experienced by the patient undergoing radiographic exposure of the head, a report which has not infrequently been confirmed in my own experience. From which it was natural to infer that roentgenization of the auditory brain center might be essayed with some hope of results.

Electromagnetic wave lengths of a range of frequencies including visible light, ultra violet radiation, x-radiation, ultra-x-radiation and radium emanation, cause the emission of electrons from metallic surfaces upon which they impinge. And yet the changes so induced are not revealed to chemical or microscopical investigation, but must be measured by very special physico-chemical methods. Now this phenomenon, known as photo-electricity, offers us an analogy which is strikingly significant for our purpose. In 1818 Von Grothhus propounded the law, applicable to all these phenomena, that "only the energy that is absorbed can do chemical work." In spite of the fact that the chemical work done by such absorbed energy cannot always prevail micro-

scopically, the modern science of photo-electricity enables us to deduce and defend the converse of Von Grothhus' law, namely, that *all* the energy that is absorbed does physico-chemical work. Moreover, I think we are justified in seeking its application to the phenomena of deafness.

From the viewpoint of the otologist, the clinical deduction is of paramount interest. The projection of x-radiation into the structures of the body must lead to the performance of physico-chemical work in proportion as the energy is absorbed. That the results cannot be measured by our present methods of clinical investigation in now way vitiates the certainty of this scientific fact. And in proportion as means for detecting photo-electric effects in the tissues are evolved, so will our concrete and detailed conceptions of the possibilities of radiation-therapy expand to include this newly revealed phenomenon.

Convinced therefore that x-radiation affects nerve structures no less than it affects, photo-electrically, other structures, I began to use the x-ray treatment in my practice; and with a view to safe-guarding such patients as had first to come within the purview of my experiments, I used very mild doses, directing the radiation to the auditory center on each side. By a mild dose I mean a low voltage equivalent to about 4 inches of spark gap, or 50 kilovolts; and a low milliamperage, about 8 milliamperes. There is in all probability no need for any greater quantity of energy; for, as Lenard early proved, the photo-electric energy of the ejection of the corpuscle is wholly independent of the intensity of the energy causing the ejection.

At the very beginning, the results were gratifying. Regardless of the character of the initial pathology provoking the deafness, many patients, who had failed to respond to the use of other methods, found their hearing acumen positively improved under the new treatment. It was soon found that the radiation could be directed practically anywhere on the head in about the quantity described, with the same betterment of hearing, clinically; a fact which suggested that the therapeutic effects noted might not be depended exclusively upon the stimulation of the auditory nerve center; but that possibly the nerve itself, as well as the associated neural and non-neural tissues might be subject to the stimulating influences of the rays.

The method, then, consists of the gentle ir-

radiation of the head from four angles, focusing, for the sake of convenience, upon the sella turcica. First, through the temporal region on the right, directing the central way one inch in front and one inch above the external auditory meatus; second, over the occipital protuberance, with the head inclined forward; third, the left temporal region in the same manner as the right; and, finally, through the anterior fontanelle, the head inclined backward. It has seemed to me to be important to keep the quantity of energy used constant and non-fluctuating, and that the best results are insured with the use of a carefully stabilized current.

Whenever examination discloses the presence of anatomical pathology, as for example the lymphatic hyperplasia that accompanies some cases of Eustachian and middle ear inflammation, it seems best to use, in addition to the small photo-electric dosage already mentioned, a heavier dosage such as is known to reduce hyperplastic tissues. These applications are proportioned to the extent of the anatomical pathology revealed, and are repeated only at sparse intervals.

I need scarcely say that the x-ray treatment here described must be regarded as purely adjuvant. Any discernible and corrigible anatomic or pathologic defect should, of course, receive all possible clinical aid. But when this has been done, my experience, covering about 600 cases with approximately 10,000 exposures indicates that the x-ray treatment challenges the attention of the progressive otologist. In all of my cases, no harmful or untoward effects have ever appeared. I shall proceed to note some of the more striking of the observations that have attracted my attention:

(a) I cannot discover that the original pathology plays any obviously determining role with respect to the efficiency of the treatment.

(b) Improvement, when it occurs, is either astonishingly immediate, or is for some time latent, becoming apparent only after several treatments.

(c) Improvement is at times followed by relapse, which has not in my experience ever reached the low level of the original deafness. The gain is apparently a progressive series of steps.

(d) Improvement is most usually manifested in an increased power to interpret the conversa-

tional voice; next for music in its various orchestral forms; lastly for metallic sounds, such as the ringing of church bells, telephone bells, and similar previously undetected sounds. Occasionally a patient will show increased acuity for everything except the voice, a situation quickly recognized by the turning fork and acoumeter tests.

(e) The most striking subjective betterment is the very general disappearance of tinnitus aurium. This is most pleasing to the patient, as it is the first symptom, and a most distressing one, which is dispelled. There are cases, however, in which the tinnitus is not materially decreased, and in an exceptionally few instances there are complaints of increased head noises.

(f) My present records show improvement, varying from slight degree to a complete cure, in not less than 60 per cent of the cases treated, which must be regarded as a gratifying result.

(g) The treatment is entirely free from any harm to the patient.

Of course, my findings are perforce empiric. But it is a dominantly great truth of scientific evolution that empiricism is forcibly and eternally dynamic.

I offer you my research not for any intrinsic merit of the hypothetical theory that it may contain; but with the trust that you essay it in terms of trial and error in the crucible of the clinic where every measure, introduced into medicine or surgery, must inevitably conform to that ancient formula—*curare, cito, tuto et jucunde*—to cure quickly, safely and pleasantly.

*Read before Section on Surgery, Illinois State Medical Society, Decatur, May, 1923.

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NONE EXPECTED

At a recent wedding reception the best man remarked to the prim little maid of honor, "Wasn't it annoying the way that baby cried all during the ceremony?"

"It was simply dreadful," she replied, "and when I get married I'm going to have engraved right in the corner of the invitations, 'No babies expected.'"

OPERATIVE TREATMENT OF FRACTURES*

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About twenty years ago I was beginning to get a chance to do operative fracture work at the Boston City Hospital—frowned on a bit as a young radical, but tolerated because I was showing results, and have kept at it.

About this time Lambotte was doing the same thing in Belgium.

Later came the wild radicalism of Lane and others, who wanted to cut down on everything from Colles' fracture on.

The question has been befogged a bit by the general surgeons who knew nothing of fracture work, but were good openers.

We shall never have a history of the calamities which followed.

Lane's trail and the later expeditions of his followers and of the bone-grafters left a trail that might recall the bleached bones that marked the trek of the pioneers of past generations across the flat lands of the middle west.

Now, I think, we have reached a stage in the game when the men who have really learned something about fractures ought to pronounce what the scope of the operative work should be.

Latterly some of these men have met hoping to standardize non-operative procedures and while operative work has not been to the fore in the discussions yet, and in spite of the fact that nearly all of these men have been operating surgeons (not orthopedists) yet their standpoint has proved curiously conservative and definite, and on the whole very much, what I am presenting here.

All men of wide experience covering not only their own work but much referred work with many cases of end-results not wholly satisfactory, they seem to have come to the conclusion that conservatism has its argument in fracture handling.

Operative results, often good, are not seldom bad, not rarely calamitous.

Operating because one doesn't know how to do the other thing is malpractice.

Non-operative handling of fractures with

modern perfected apparatus gives really excellent functional results in the vast majority of fractures.

Operating merely to secure a pretty x-ray, is not justifiable, considering the expense in time and risk.

Doctors, patients, and even the courts may, and must be, taught to estimate results in terms of function,—and external appearance also, fairly enough,—and not in terms of x-rays. The x-ray is a diagnostic aid and should not be an arbiter.

The dread of facing a result not decorative in the x-ray picture, even with everything else satisfactory, has led to the commission of countless operations, even by honest careful men, and I hate to think to how many calamities.

I do not think myself a pessimist but I happen to be a sort of court of last resort for many people in my little corner and the results I've seen in latter years are a bit saddening.

What we need is a better education in fracture work, better handling of apparatus, better physio-therapy and exercise work in convalescence, not more operating.

Take for example fractures of the shaft of the femur.

No man who is not competent *and equipped* to apply traction (Buck's or Thomas or Pierson) or skeletal traction,—and to apply it *right*, and to see that it stays right, has any business talking about plates and grafts.

Half our hospitals are insufficiently equipped for non-operative fracture work, but *that* isn't an indication for operating,—*except* on the superintendent and trustees!

There are many hospitals; let the patient go where there is equipment.

There are fractures that *must* be treated by operations.

Fractures of the patella with separation.

Fractures of the olecranon.

Fractures of the carpus, irreducible, and carpal luxations but not the reducible ones.

Fractures of the radial head—by no means all of them.

Separation of the humeral epiphysis,—at the shoulder—often,—and a few shoulder fractures.

Fracture luxation at the shoulder.

Both bones of forearm, a few cases.

Fracture luxation at the hip.

Fractures of the femur,—transverse frac-

*Read before the Inter-State Assembly of the Tri-State District Medical Association, at Des Moines, Iowa, Oct. 29, 30, 31 and Nov. 1.

tures particularly that can't be reduced or can't be held.

Very rarely, fractures of the lower leg.

Fracture luxation of the astragalus.

Rarely tarsal fractures of unclassified sorts.

Really that is about all, so far as fresh cases go.

And as to late cases, mal-unions, and non-unions.

Today we have resources in the way of diathermy and massage and of ambulatory splints that have removed very many of these cases from the operative list.

What of plates and bands after reduction?

Justified only if one can not do it otherwise.

Plates and bands interfere with union as a rule, do not promote it, surely, and are called for only in cases not to be held in any other way. Moreover they do *not* do away with the need of protective splinting. Error in this is often costly.

In practice they are called for in a certain proportion of fractures of the femur, in some forearm fractures, rarely in humerus or tibia cases.

As a rule they interfere with on delay final repair,—so much that they should usually come out after fulfilling their function of primary fixation. Most plates and nearly all bands should come out.

What about grafts?

To my mind, all the complicated development of massive grafts, panel-grafts, intramedullary grafts of autogenous or foreign bone has been a failure as far as recent fractures are concerned and only too often in the later ones.

The calamities and the quiet failures are too many, even if not widely published.

The principle of bone-grafting is of real value of course. Here and there "slide-grafts" are wise.

To bridge defects, mass grafts are of value.

For repair in cases of non-union or long delayed union, the work of McWilliams and others, the experience of all of us, show clearly enough, I think, that our reliance should be on "chip-grafts," osteo-periosteal grafts of no great bulk, cut from bone of vascular structure, of high growth capacity, with great total superficial area, used to pack into defects in refreshed bone, and to splint under the peri-

teum across defects. These grafts work, the massive ones only too often unite at one end, wobble at the other, and wait.

I do not mean to be understood as condemning the big grafts entirely. They are of greatest service to me in reconstruction problems. What I do mean to say is that their use is limited and that the chip graft with diathermy and the stimulus of early weight bearing and use are to be our chief reliance in the delayed union cases.

On the whole, then, all the modern trend is in favor of development of skill in the use of equipment in routine fracture work, and toward the limitation of operative work to exceptional cases, to work in fully equipped institutions, and in the hands of men properly equipped, not only as operators but as experienced handlers of fracture cases.

Logically, this would seem to point to the orthopedists as fracture handlers.

Oddly, it doesn't seem to work out that way. Here and there an orthopedist is the man.

Others, concerned with "the chronic treatment of continuing disease" are less suited to the handling of acute cases.

The compromise type of man, the "six-weeks orthopedist" of our war forces, a young general surgeon, intensively trained for a short time in apparatus work is the best type.

However little we like it, all of us are going to have to recognize fracture men if not a fracture service in all our big hospitals if we are to get results.

With us in Boston the men who are coming up, who are getting results, who are going to make progress, are of the type noted,—young general surgeons, trained to operate, only when operation is needed, trained to work for end-results only, trained to skill in non-operative work, trained to combine eagerness with patience.

We have these men coming up,—in Boston the Massachusetts has at least two,—at the City I can name three, and every community is going to have them.

Operative work on fractures has a place, permanent, valuable. It has been discredited by the effort of untrained men, facile operators, to throw the whole of fracture work into the operative field where it doesn't belong.

This furore has begun to wane.

We are in position now to evaluate this thing with some accuracy.

Fractures in the next decade are going to be better treated with commensurate results.

In the meantime we may lay down certain broad rules.

Never operate unless the outlook on a non-operative basis is bad,—or unless you can make it better.

Do not operate to get a better x-ray picture.

Keep one eye on form.

Keep both eyes on function.

As to delayed union:

Many need not operation but skilled treatment.

Others (what I have called the displacement class) need reposition and fixation; often temporary plating; grafts usually superfluous.

Others need bone stimulus,—bone bridging.

Refresh, pack and splint in small grafts; fix by splinting.

Intramedullary or inlay "grafts" live or boiled belong to exceptional cases only.

REVIEW OF THE TREATMENT OF SYPHILIS *

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The date of the appearance of syphilis is a much debated question. There are two theories, one being the pre-Columbian, which bases its evidence on certain references made to the disease in the Bible and in Shakespeare's works. The Columbian theory accepts no evidence as authentic, which has been found prior to 1494. At this time a great epidemic spread rapidly over the eastern hemisphere, affecting all claus and all races. At that time, Charles VIII was making his raid into Italy with an army composed of mercenaries collected from over entire Europe. After they had been successful in taking Naples they were not able to hold the city, due to the fact that the army became suddenly ill with a venereal disease. They were therefore forced to retreat, carrying the disease with them. The condition spread rapidly and fatally as a new disease in virgin soil is prone to do. In one year it had

reached France, Switzerland and Germany. It was entirely new in its manifestations.

Whenever the affection made its appearance in another country the disease was named for the people from whom the infection was supposed to have been obtained. The English and Turks called it the French disease; the Russians called it the Polish disease; the Hindoos and Japanese called it the Portuguese disease. The Spanish considered it as having been introduced from the new world and called it the disease of the Espanola Isle. Due to its appearance at this time, it would be easy to conclude that Columbus and his sailors had brought the disease back from some of the ports they had visited during their voyage of discovery.

The disease was quickly confused with the other venereal diseases—gonorrhea and chancroid. It was thought that the three diseases were different manifestations of the same condition. In 1767 John Hunter strengthened this confusion by producing syphilis in an individual inoculated with pus taken from a patient suffering with gonorrhea. Not until 1838 was the identity of syphilis again questioned. At this time Phillippe Ricorde proved that syphilis and gonorrhea were distinct diseases and enunciated the theory of primary, secondary and tertiary syphilis. Its identity was not made certain until 1905 when Shaudin and Hoffman demonstrated the *spirocheta pallida* in hard chancres. In 1911 Noguchi completed this work by growing the organism in pure culture.

Very early in our knowledge of syphilis the beneficial effect of mercury was realized. In 1530 Francastor wrote "The action of mercury on the scourge is marvelous, either because of its affinity for heat and cold or because its magic virtues are derived from some occult force whose mysteries escape us." The drug was given in most heroic doses, the toxic symptoms being striven for rather than avoided. The stories of falling teeth and decaying bones were so common that our patients of today still hear about them and fear such is to be their fate.

Fortunately, such deleterious effects are no longer necessary, it now being our primary effort to build our patients up physically rather than to break them down. With this in mind, our syphilitics are put in the best condition possible before they start their intensive treat-

*Read before the Chicago Council of Medical Women, February 26, 1924.

ment. They are subjected to a careful physical examination, with special reference to certain organs that we know to be taxed by the drugs used for the elimination of the disease. Special care should be given to the teeth and any defects corrected before the mercury treatment is started. The kidneys should be tested as both the arsenic and mercury act upon them. The blood picture should be studied; also a knowledge of the blood pressure is important. The central nervous system should be examined to ascertain the condition at the beginning of the treatment so that comparisons may be drawn during the following years. Intercurrent diseases should be considered. We must not forget the fact that a syphilitic is equally as susceptible to other diseases as is the nonsyphilitic. With this in mind, we will not attribute symptoms to the specific infection until we have sufficient reason for doing so.

The habits of the individual during treatment are more or less important. The diet should be abundant, but simple. Acids should be reduced in amount at all times and completely eliminated from the diet during the treatment with mercury. Those foods which are irritating to the bowel should also be avoided at this time. However, free elimination is important, and for this reason the diet needs must have some coarse foods. Blood-building food is also indicated, due to the deleterious action of the antisyphilitic treatment on this system.

The disease seems to be more serious in alcoholics. Therefore, the intake of alcohol is reduced as much as possible. While there is no proof, it is the general opinion that alcohol interferes with the action of mercury.

If the mouth and throat are involved, the use of tobacco should be limited, otherwise it has no effect.

Sleep and exercise are equally important. This should be impressed upon the patient, making him realize that this part of the medication is assigned to him.

The local treatment of the lesions under our present management is very simple, as they respond quickly to the arsphenamin. The lesions should be kept clean and as sterile as possible. A genital lesion should never be treated locally until a positive diagnosis has been made. There is no particular hurry about cleaning up the local lesion as it has no effect on the course

of the disease. The disease has already become generalized by the time the local lesion is of any size. After diagnosis the lesion may be treated with mercury ointment, powder or wash.

Hydrotherapy is very popular with the lay people. It is a subject which frequently has to be discussed with them. Hydrotherapy sanatoria are beneficial only inasmuch as the patient is more faithful to treatment while away from home. Under such circumstances, he is making a business of his treatment. Some of the waters make the patient more tolerant to mercury. Usually while at such a sanitarium the patient drinks large quantities of water, takes frequent hot baths and massages, all of which help elimination, thus enabling patients to take large doses of mercury. Their greatest value rests in the regular life that the patient leads, with plenty of rest and regular exercise. In view of this we consider there are two classes of people who are helped by this form of treatment. First, those who will not be faithful at home and, second, those who do not respond to the amount of treatment that can be given while they continue their regular habits.

Mercury is given by several different methods. We most often think of it in the treatment of syphilis as being given by inunctions. This, however, is not the only route by which it is administered. When inunctions are employed one dram of the official unguentum hydragyrum is used daily. This is very thoroughly massaged into the skin, it requiring about one-half hour of quite steady rubbing to accomplish this. Any excess of mercury may then be removed. This is repeated six nights a week, the patient being instructed not to bathe the areas so treated during the week. On the seventh day the patient does not use the inunction and is allowed to have a very hot bath. In selecting the location for rubbing one should avoid those areas where there are many hair follicles as such areas are more apt to develop a dermatitis. It is also advisable to use a different area each night. Those areas most frequently used are the calves of the legs, the thighs and either side of the abdomen.

Infants are frequently treated by applying the mercury ointment to the binder. In this way the activity of the baby massages the ointment into the abdomen. In adults the mercury may be applied to the soles so that by walking the

rubbing process takes place. When mercury is given by inunction, absorption occurs so that it may be detected in the blood in twenty-four hours.

A slower method of administration but one which the patients prefer is by mouth. By this avenue the mercury does not appear in the blood for three days, and then in varying amounts. Mercury and potassium iodid in solution is a frequent combination for oral administration. In infants very good results are obtained by the use of protiodid of mercury pills. This oral method, however, is not satisfactory and should be employed only under particular circumstances, such as traveling or marked intolerance to treatment. The oral method is slow and the absorption is uncertain. It is also most irritating to the gastro-intestinal tract. This is manifested by abdominal pain, loose bowel movements and bloody stools.

A third method is that of deep muscular injection. By this method the mercury appears in the blood in three or four hours. The soluble or insoluble form of mercury may be used. The injection is given in the buttocks, care being taken in the selection of the site to avoid the large blood vessels and nerves. One should also avoid the area subject to the greatest pressure while sitting. A needle at least an inch and a half long should be used. It is important these injections be intramuscular and not subcutaneous. One should also make sure that the lumen of needle is not in a blood vessel, especially when insoluble mercury is used.

The soluble salt most frequently used is the bichlorid in a one per cent solution, giving 1/5 to 1/3 gr. three times a week. The oxycyanid and benzoate are also given. The advantage of this method rests in the accuracy of the dose and its ease of administration. The injections are only slightly painful and are much preferred to the unsightly appearance of the inunctions.

The insoluble preparation has the advantage of requiring less frequent injections due to the fact that a single injection forms a reservoir from which the mercury is available for absorption for about one week. Mercury salicylate in oil is the form most frequently employed, one grain being given at a dose. There are, however, disadvantages to this method, the most serious being the painful encapsulations, which frequently result. These encapsulations may in-

terfere with absorption, later breaking down and flooding the system. There is, under such circumstances, no way to stop absorption, and the resulting mercuritization may be very severe. Its administration is not as simple as the soluble since the danger of embolism is greater.

Of late, mercury is being given very frequently by the intravenous route. The action is quick, the dose is constant and the administration is not painful. Simple bichlorid solutions were first used. Mercurosal, a product derived from salicylacetic and mercuric acetate is now being used with good results. A more recent preparation is flumerin the disodium salt of hydroxy-mercuric flouricine.

The mercury thus administered circulates as an albuminate. It has a direct action on the spirochete as well as its usual alterative effect. It is stored in the liver where it may be found many months later. The drug is excreted by the kidney, colon and skin. It appears in the urine two to twelve hours after it reaches the blood and in the stool twelve hours later.

The tolerance varies greatly, depending on the ability of the individual to eliminate the drug. The toxic symptoms that must be most frequently watched for are: salivation, nephritis, gastro-intestinal disturbances and loss of weight. Salivation is first evidenced by a metallic taste, swelling of the gum tissue behind the third molar and a sodden accumulation around the teeth. This is followed by a copious secretion of saliva.

When attacking the kidney the principal action is on the convoluted tubules. This is evidenced clinically by a lessened output of urine of high specific gravity, containing blood, albumin and granular casts. Such an involvement is not dangerous to the patient if recognized early and properly treated. The mercury should be stopped, the patient put to bed on a bland diet with stimulation of the bowels and sweat glands.

The bowel is frequently irritated causing severe abdominal pain and diarrhea. Its action usually is on the colon and may form a serious complication to the continuance of mercury treatment. A bland diet with rest usually relieves the condition sufficiently so that treatment can be continued by the use of some of the arsenic preparations.

Arsenic was used for the treatment of syphilis

long before its specific action was known. It was first used as Donovan solution in 1839. It was thought to energize the action of mercury. Later a preparation known as atoxyl was introduced. This product has never reached a high degree of popularity due to its supposed action on the optic nerve.

In 1906 Ehrlich gave us the preparation of arsenic that revolutionized the ideas of treatment. He had long searched for a drug with a specific affinity for the parasite and not for the host. In this six hundred and sixth experiment he found such a drug. This product was received with great enthusiasm, it being the belief that one injection would sterilize the patient. Very quickly clinical results proved that the drug was not capable of so phenomenal an action but that it had very remarkable spirocheticidal power.

Arsphenamin was first put on the market as a powder having an acid reaction. This required neutralization before being used. Ehrlich continued his investigations until the nine hundred and fourteenth experiment gave him the preparation now so widely known as neosalvarsan. This is a powder of alkaline reaction which is more simple in its preparation and administration.

The free distribution of these drugs was greatly limited for some time due to the fact that the products were patented. The patent was applied for, not because of any selfish motive, but because Ehrlich, with a knowledge of the toxicity of the drug and the great demand for it feared that inferior preparation would be put on the market which would not only be dangerous to the patients but interfere with the accumulation of statistics on the original product. These patents are no longer observed. Many companies in various countries are now making the drugs which are generally known as arsphenamin and neoarsphenamin. Arsphenamin is a yellow powder soluble in water and has a strongly acid reaction. It is furnished in hermetically sealed ampules, as it deteriorates when exposed to air. Triply distilled sterile water is used for dissolving the drug. The last distillation should be over glass and not more than twelve hours before the injection after which it should be sterilized by boiling. The glass when used for mixing should be rinsed in this water

before use. This solution must then be neutralized with 15 per cent. NaOH. before it is ready for injection. Care must be taken that this neutralization is complete as the drug is very toxic if given in the acid state. Many of the bad effects of arsphenamin have been traced to this error. Enough sodium hydroxid should be added to produce a heavy white precipitate which quickly dissolves. Another drop of the alkali is added to make sure that no more precipitate will form. The excess of sodium hydroxid should not exceed one-fifth the amount required for neutralization. The total volume is then made up to 25 c.c. per .1 gram of arsphenamin. The solution is then ready for intravenous injection by the gravity method.

Neoarsphenamin is a yellow powder readily soluble in water, having a neutral reaction. It is furnished in ampule doses as is arsphenamin. This product is lower in its arsenic content, having only 21 per cent arsenic while the arsphenamin has 31 per cent. It is, therefore necessary to give larger doses to obtain the same therapeutic effect. It has the advantage of greater ease of preparation. Its solution does not require neutralization, nor does it need to be given in as large quantities of water. Twenty c.c. of water is sufficient for the maximum dose so that it can safely be given with a syringe if the solution is not forced into the circulation too rapidly. It has the further advantage of being less toxic. Clinically, in the majority of cases, it seems to give equally as good results as arsphenamin.

Early in the use of arsphenamin there were thought to be many contraindications. Those have been eliminated one by one until at the present time the only contraindication that is recognized is an idiosyncrasy to the drug. Nephritis which was formerly thought to be a contraindication is now known to be frequently due to the disease and to respond well to the treatment. If not due to syphilis the drug, cautiously given, seldom has any marked effect on the nephritis. Those having an involvement of the circulatory system were also considered bad risks, but now they too are being treated with very good results. It is in the pregnant woman who was once barred from treatment that we are getting our most encouraging results. The percentages of stillbirths and congenital syphilitics

have been astonishingly reduced by treatment during this period.

The untoward reactions produced by arsphenamin might be divided into four groups; the local, the immediate, the intermediate and the delayed.

The local is usually due to faulty technic. If there is too much trauma to the vein a phlebitis with thrombosis may result. If even a very small amount of the solution escapes from the vein into the surrounding tissues an infiltration of greater or less degree, depending on the amount will result. Such a condition is exceedingly painful and frequently results in obliteration of the vein. In some instances the infiltration may slough out, leaving an ulcer which is very difficult to heal. It is, therefore, very important to insure a free flow before the solution is forced from the syringe.

The immediate constitutional reaction is usually of a vasomotor type. There is a peripheral dilatation. The conjunctiva is injected and the face flushed. There is a sense of pressure in the chest and breathing is difficult. This is followed by severe abdominal and lumbar pain. There may be vomiting and diarrhea. Such reactions may sometimes be aborted by the injection of 1 c.c. of adrenalin.

The intermediate reactions are much more frequently encountered. These consist of headache, nausea, diarrhea and chills coming on from two to twenty-four hours after the injection. There may be any grade of reaction from one so slight as to be hardly perceptible to one which incapacitates the patient for a few days. The treatment for such a reaction consists of free elimination and light diet.

The delayed reactions are most severe. They occur several days after the injection. It may start as a simple dermatitis which goes on to complete exfoliation, robbing the patient of the outer layer of skin, many times before its termination. Instead of the dermatitis a late reaction may take the form of an encephalitis. Both of these reactions very seldom occur, but when they do they are frequently fatal.

Another arsenic preparation for the treatment of this disease was put on the market in 1918 by Kollé. This is silver arsphenamin. It is arsphenamin combined with silver. This drug is thought to have a much higher spirocheticidal

action with lower toxicity. The per cent of reactions resulting seem to be less than with arsphenamin. Frequently patients who are unable to take arsphenamin are able to tolerate fairly large doses of silver arsphenamin. That its therapeutic effect is superior to the older drug has not yet been proven.

The treatment of spinal involvement has been most unsatisfactory. It has been difficult to find a drug capable of penetrating to the central nervous system. Arsphenamin has been injected directly into the spinal fluid with rather severe reactions resulting but without marked beneficial effects. The spinal fluid has been drained at the time of the intravenous injection with the hope that osmosis would draw the arsphenamin into the spinal fluid. A method more frequently used is that of arsphenamized auto-serum. The arsphenamin is injected and given in the usual way. A half hour later 3 ounces of blood are withdrawn and the centrifuged inactivated serum is injected intraspinaly.

Recently a new preparation has been giving more satisfactory results than has any other form of treatment in neurosyphilis. This preparation is known as tryparsamid. It is of little, if any value as a spirocheticide during the early stage of syphilis. It does not sterilize as well as arsphenamin nor does it heal cutaneous lesions as well. It has practically no effect on the blood Wassermann. However, it has quite a striking effect on the cytobiology of the spinal fluid. Those cases suffering from neurosyphilis seem to derive very marked beneficial results from the drug both serologically and clinically. Due to its effect on the optic nerve, the drug must be used with great caution and only when it is possible to have the eye grounds watched.

There is one other drug so generally used that it must be mentioned also. This is potassium iodid. This drug has no spirocheticidal action, but aids much in the treatment by breaking down the encapsulation, and thus exposing the organism to the action of the mercury and arsenic. It may be given by mouth or intravenously. When given by mouth doses from 15 to 200 gr. well diluted in water and given three times a day are used. More rapid results are obtained by the intravenous method and, at the same time, the gastro-intestinal tract is not irritated.

The signs of iodism are metallic taste, coryza,

headache and pain in the abdomen. Frequently there is an acniform eruption with no other signs of iodism. This can be controlled by giving small doses of Fowler's solution with the iodid.

Our object in treatment has been decidedly changed by the introduction of these late preparations. Previous to this, the only hope was to clear up the existing manifestations and to prevent their development in the future. With the discovery of the Wassermann test, our efforts became an assault on this positive reading instead of an attempt to deal successfully with syphilis as a morbid condition. It is now realized how inadequate this attempt was. We now know that we must treat long after a negative Wassermann is obtained, but just how much longer it is difficult to say. Unfortunately the treatment of syphilis cannot be reduced to terms of a mathematical formula, requiring so much arsphenamin, so much mercury and so many negative Wassermann tests. Most patients are still under-treated. In the old days of mercury treatment the patient resigned himself to years if not a lifetime of medication. With the advent of arsphenamin the pendulum swung to the extreme and it was hoped that one treatment would cure. Gradually we are recovering from this erroneous impression but the progress has been slow. Even at the present time, many patients are receiving inadequate treatment and inadequate treatment with arsphenamin is a far more serious error than with mercury. With the latter drug the germs were destroyed slowly, allowing the patient to develop a resisting property in his own system, rendering him partially capable of combating the disease himself. This is not true of arsphenamin. It enters the system in large quantities, acts quickly, destroys large masses of spirochetes in a very short time and passes out of the system, having stimulated no antibody formation. The result is that the patient is then entirely at the mercy of the medication for combatance of the disease. If the arsphenamin treatment is not adequate, the patient is in more danger than is the one who has not been treated at all. With this in mind, it seems wise to treat with both arsphenamin and mercury, giving the treatment in alternate courses.

The arsphenamin should be given as frequently

as seems wise in the individual case. Most patients are able to take at least two injections a week. This should be continued until the system seems well sterilized of all the organisms freely accessible to the circulatory system at that time. Frequently twelve and often more injections are given in such a course. This should be followed by a period of mercury and iodid medication, which acts slower but is equally important. After a few weeks of mercury treatment the arsphenamin injections may be repeated. At the close of this course the patient is given a well earned rest from medication. During this rest period the blood should be examined and if positive, the same form of treatment should be repeated. If negative, the treatment should still be continued but in a less energetic manner for a year or more, depending on the severity of the case.

It is very difficult to give a standard of cure if a cure is possible at all. The goal toward which we strive is for the development of a permanently negative Wassermann together with the absence of clinical signs. If this is obtained over a period of two years, the patient is subjected to a provocative test, which consists of the injection of .3 gr. of neoarsphenamin followed by Wassermann tests every twenty-four hours for one week, another in fourteen days and one in twenty-one days. If these nine Wassermann tests are negative, and the spinal fluid is also negative, we can say to the patient that we can no longer find any evidence of the disease, and that to the best of our knowledge none exists, but for his own safety and for the safety of those dependent on him, he should have his condition checked up clinically and serologically from time to time throughout his life.

OBJECTS AND METHOD OF DIET ADJUSTMENT IN DIABETES

Diet regulation in diabetes aims to bring the supply of glucose within the individual power to utilize. Carbohydrate must become glucose before it can be oxidized. Fat yields twice as much glucose as protein. A diet largely protein therefore should contain less carbohydrate than when much fat is allowed. The critical point must be watched for at which acetone makes its appearance. Carbohydrate should be kept at the maximum short of this in order to reduce the amount of protein eaten. Cream is especially serviceable in sparing protein. —R. T. Woodyatt (*New York Medical Journal*, Feb. 1, 1922).

STANDARD SIMPLE RULES FOR INSULIN TREATMENT OF DIABETES AND ITS COMPLICATIONS *

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A. Selection of cases:

1. Only those true diabetics in which a well-balanced maintenance diet cannot be handled without glycosuria and hyperglycemia.
2. Treatment of complications of diabetes in *all* cases.
 - a. Acidosis and coma
 - b. Gangrene
 - c. Septic infections
 - d. Necessary surgical procedures
 - e. Intercurrent diseases
 - f. Tuberculosis.

B. Detailed Procedure:

I. Dietary Regulation.

1. Principles involved:

- a. Give caloric requirement
- b. Maintain nitrogen balance
- c. Maintain proper balance between proteins, carbohydrates and fats, so as to keep ketogenic—antiketogenic ratio at 2.0 or below.

2. Simplified application of above:

a. Caloric need.

Allow $12\frac{1}{2}$ calories to each pound at age 30-35. Add 5 % if under 25. Subtract 5% if above 45. Subtract 5% for females.

Example: Female, 50 years. 130 pounds. $130 \times 12.5 = 1625$ calories. Subtract 5% for age and 5% for sex (10%). $1625 - 162 = 1463$ calories. Represents basal need, to be increased 20—30% when patient returns to ordinary activity.

b. Maintaining Nitrogen Balance.

Present-day authorities on metabolism are generally agreed that 1 gram of protein per kilogram of weight is a safe protein ratio. Although investigations have shown that two-thirds gram will maintain nitrogen balance we must consider two prac-

tical objections to this principle.

In the first place, many diabetic cases are decidedly under weight and in the catabolic processes many have used up their own body proteins, especially the non-obese type, and will need more proteins in the rebuilding process than the amount ordinarily required.

In the second place, it is rather difficult from the dieticians' standpoint to plan a palatable carbohydrate low diet, with so minimum amount of protein to which to add the fat necessary to equal the metabolic requirement.

Example: Patient 130 pounds, mentioned above.

$\frac{130}{2.2} = \text{Number kilograms} = 59$. Therefore 59 grams protein every twenty-four hours.

c. Proper Balance Between Proteins, Carbohydrates, and Fats, carrying out in general Newburgh's high fat principle.

1. *Carbohydrate.* A formula worked out after many attempts to standardize as much as possible a definite diabetic dietary regime and found most practical in the average cases is:

Carbohydrate grams =
Caloric requirement— $7 \times$ Protein.

30

Example:

Caloric need $1463 - 7 \times 59 = 1050$

30

30

35 grams carbohydrate.

2. *Fat.* Have now determined our patient (as for example in this case) should have 59 grams protein and 35 grams carbohydrate. We now make up the balance of caloric requirement in fat.

Example:

59 grams Protein yields (4 calories to gram) 236 calories.

35 grams carbohydrate yields (4 cal-

*Read before American Congress on Internal Medicine, Feb. 18, 1924, St. Louis, Missouri.

ories to gram) 140 calories.

Total 376 calories.

Balance is therefore 1463 minus 376
=1087 calories.

As fat yields 9 calories to each gram
we need $\frac{1087}{9}$ =121 grams fat to

complete this patient's caloric need.

3. Determination of ketogenic—anti-ketogenic ratio. Ratio=
.90 fat plus .46 protein

Carbohydrate plus .58 Protein plus
.10 fat.

Should be 2.0 or less.

Example in this case:

.9 (121) plus .46 (59)

—————=1.69

35 plus .58 (59) plus .10 (121)

N. B.—Using the above method of calculating proteins, carbohydrates and fats makes working out this ratio unnecessary, as every case will fall within the proper ratio.

II. Measuring Insulin dosage:

1. Having assured ourselves of case being a true diabetes mellitus, with characteristic hyperglycemia we now determine the patient's tolerance after he has been on the above outlined maintenance diet at least three days, by subtracting the urinary sugar output in *grams* after it has fallen to a fairly steady level on the minimum maintenance diet, from the *available* carbohydrates in diet (roughly all carbohydrates plus half protein). We know that this is the amount that his carbohydrate metabolic apparatus *can* handle and all *above*, i. e., all that is excreted in urine, we must supply with insulin in the following ratio:

1. Case of average severity 1 unit to each 2 grams urinary sugar.

2. Case of marked severity (acute) 1 unit to each 1.5 grams urine sugar.

3. Case of mild carbohydrate intolerance 1 unit to 2.5 grams urine sugar.

III. Incidental details:

1. In hospital one week surely, preferably two weeks.

2. Blood sugar every 2 days, after first week every 3 days.

3. Weight daily.

4. Increasing diet. When we have our patient sugar free and glycemia reduced, let us say, above the fifth or sixth day of treatment, we now allow him a greater range of activity; for instance, up all day and walking about hospital or neighborhood, and add 20% to his caloric need. Give additional insulin in the same proportion as outlined before, e. g., our case has:

59 grams protein,

35 grams carbohydrates=1463 calories,
121 grams fat,

adding 20%=(1463×.20=292 calories to be made up in carbohydrates and fat in proportion of about 1 to 4. Roughly:

Additional calories
—————40=grams carbohydrate to

be added and

Additional calories
—————10=grams fat to be added.

i. e., in this case 7.5 grams carbohydrate and 29 grams fat. Therefore four additional units of insulin. After going back to moderately active life an additional 10% should be added.

5. Subsequent Insulin dosage: Anticipate each increase in diet by increasing 1 unit of insulin to each 2 grams carbohydrate added to diet as detailed above. Frequently the physiological rest afforded the pancreas by relieving the overstrained function will result in greater tolerance, and patient's insulin can be lowered, 1 or 2 units at a time, without glycosuria reappearing.

IV. Treatment of complications:

1. Acidosis, mild.

a. Must not put off too long as case may go into severe acidosis and coma. Begin insulin as soon as blood sugar and first twenty-four hour urine output is known.

b. Must not cut down carbohydrate in diet too much as the insulin must

have carbohydrate to burn in order to oxidize the fatty acids.

c. It is best to give divided doses, three or four times a day for the amount decided upon, especially where the blood sugar is not very high, as one large dose may too suddenly lower the blood sugar at the same time not distribute its oxidizing effect along the course of the entire day.

2. Extreme acidosis with impending or actual coma.

a. Symptoms: Muscular weakness and drowsiness, pain in the limbs, back, and abdomen, nausea, flushed cheeks, Kussmaul respiration (deep, slow, profound), dry, parched tongue and frequently retention of urine.

b. Detailed treatment:

1. Immediate and absolute rest in bed.
2. Keep warm with hot water bags, etc.
3. Gastric lavage with 5% sodium bicarbonate solution.
4. Colonic flush with similar solution.
5. Catheterization every three hours (in case urine retention should be a factor).
6. Watch fluid intake, at least one quart every six hours by mouth, proctoclysis, hypodermoclysis, or intravenously. Coffee by mouth is desirable.
7. Digitalis hypodermically. 1 cc. of Digalen every hour for four doses, then 2-3 cc. once or twice a day until patient is out of danger.
8. Insulin dosage, 30 units at once, buffer by either 150 cc. of orange juice or hyperdermoclysis of 300 cc. of 4.7% glucose. In three hours another similar buffer and three hours after repeat the 30 units and buffer again, as detailed above. Repeat this procedure every six hours until the severe

acidosis and comatose condition are relieved.

9. In extreme danger use insulin intravenously together with glucose by same route.

10. It is important to control insulin by repeated blood and urine sugar examination. It is a good plan to allow a small amount of sugar to remain in the urine in order to be safe from coma of hypoglycemia provided we rid the patient of his acidosis.

3. Gangrene infection and necessary surgical operation:

a. Same principle as usual in non-complicated diabetic case, except that things should be hurried up if the gangrene is progressive so as to prepare for early operation when indicated, that is, within twenty-four to forty-eight hours. The best plan is to push the carbohydrates moderately and give insulin accordingly. The balance of judgment in this matter requires considerable therapeutic courage and care. On the morning of operation of any diabetic give 20 units of insulin without buffer as the hyperglycemia of shock will act as such.

University Club Bldg.

TREATMENT OF PNEUMONIA *

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My paper this evening is on a subject which has long been before the medical profession and one which does not give promise of being eradicated by public health measures. As long as we have bacteria in the upper air passages and as long as people are subject to injuries and infections, pneumonia shall continue to be an important factor in the termination of life.

Let me say at the start that I have no wish to give you the impression that I have solved this problem—far from it. My only desire is to review the publications of some of the recent workers along this line and to point out and

*Read before the Elgin Academy of Medicine, November 24, 1923.

emphasize some few points which I believe in the light of my own experience are essential in the treatment of this disease.

It has been said that the treatment of this disease depends more upon nursing than upon medical skill. I agree with the writer that this is about one-third or perhaps one-half the truth. "As a matter of fact, the treatment depends mainly upon the prompt and specific application of many well-established medical procedures applied at the correct time; not too soon or too late. And the more carefully the patient is watched and the more carefully these measures are applied at the correct time, the more successful will be the results." There shall be no attempt this evening to go into detailed treatment of the different types of pneumonia because very largely the same principles apply in all types.

There is probably no disease in which the treatment of the patient and not the treatment of the disease is so important as in pneumonia. Of course, the preferable thing would be the prevention of this disease and I firmly believe that if it were made a definite rule, and that this rule could be enforced, that every person with a respiratory disease should go to bed immediately and stay quiet there until the respiratory disease had been cured, that pneumonia would be practically eliminated. This of course does not apply to anesthesia or aspiration pneumonia or that due to injury or septicemia.

My beloved teacher, Doctor William E. Quine, taught us that he could abort pneumonia by the use of mild chloride of mercury. My experience has led me to believe that in the cases in which he felt the pneumonia had been aborted, it was not due to the calomel which he gave but to the rest in bed and general nursing care which he gave the patient. I am sure I have seen cases where, following a chill with high temperature, increased respirations, slightly rusty sputum, a few rales posteriorly over one lobe, the symptoms would disappear as if by magic when the patient was put to bed, sponged for temperature, and perhaps be given a few grains of aspirin and instructed very carefully about lying quietly in bed; and no cathartic was given at all.

We will all agree that the patient should be put to bed and that—early. The instruction in regard to lying quietly in bed is perhaps the most important single thing that can be done in practically all types of pneumonia. I do not

mean by this that the patient should not be turned at regular intervals so as to avoid hypostatic congestion, but he should be told not to get out of bed under any consideration and that he must lie as still as possible and especially avoid coughing. For this reason I do not want my early pneumonia patient to talk any more than is absolutely necessary and I want him to attempt to choke back his cough if possible.

Very well do I remember a case of pneumonia during the influenza epidemic in 1918 which I believe illustrates this point more markedly than any other case I have ever seen.

Mr. R. S., aged 35 years, married, wife and one son, both sick with the "Flu." The family was being cared for by the wife's mother. The patient had been sick two days, running a rather high temperature, coughing considerably and very restless. He had insisted upon waiting upon himself because he felt that his mother-in-law had more than she could do to take care of his wife and son. He was seen each day, but on the morning of the third day of his illness his respirations were increased to 36-38, he was spitting frothy, bloody sputum, temperature was 104.6 and there were marked rales over the entire right lung posteriorly, although I could find no consolidation. In fact, he was, it seemed to me, a beginning Flu-pneumonia, of which we saw so much in those days and the final results of which, in so many cases, we know too well. I frightened him by telling him if he did not stay in bed and stop his coughing that I believed he would die, and I impressed it upon him that he must lie perfectly still and not even talk and that he must allow someone to wait on him. He was getting small doses of aspirin and belladonna. I did not change the medicine in any way and, very much to my surprise, when I saw him the following morning, his temperature had dropped to 101, his respirations to 26, and he had stopped spitting rusty sputum, and the rales had almost entirely disappeared. He made an uneventful recovery in a few days.

So impressed was I with this particular case that I have attempted the same thing in a good many instances since, and although I have never seen such striking results, yet I am positive that keeping quiet is perhaps the one greatest factor in the prevention and treatment of pneumonia.

When it comes to the discussion of the care of the patient I feel that fresh air is important at all times, but some patients do not do well when it is too cold, and for that reason I prefer to have my patient in a warm, well-ventilated room. In other words, I want my patient to be comfortable, and as a cold room makes some people very fearful and uncomfortable, they do better in a warm room.

The diet does not seem to me to be so important as perhaps in some other diseases. During the fever stage, if the patient can take food and not be distressed, I can see no harm in giving it. This should be light and nourishing and the patient who can be well fed through pneumonia, the same as we now feed a typhoid, comes through in better condition, and it seems to me with fewer complications.

Fluids should be given in good quantities and my orders are to give from two to four liters per day. If the patient cannot take this by mouth, I do not hesitate to give it per rectum or beneath the skin.

Perhaps the one thing which we will not agree on is the care of the bowels. Personally, I seldom ever give a cathartic during the course of pneumonia. And the longer I practice this method the more assured am I that it is correct. I advise a single, low enema per day. In a few cases where the patient is uneasy about the bowels and where we have not obtained good results from the enema, I give an occasional very mild cathartic. I am sure the patient is more comfortable and there is decidedly less tympanites, which as we all know is a distressing symptom, and I have not seen bad effects from not using cathartics.

I do not hesitate to order warm baths for temperature in my pneumonia cases, providing I have a skillful nurse and the patient reacts well to the bathing. I do not use them if they make my patient uncomfortable or fearful.

When it comes to speaking of drug therapy I am sure there will be wide differences of opinion. I agree quite well with a recent article of Doctor Solis Cohen's of Philadelphia, in what he calls his Definite Plan in the Treatment of Pneumonia, with the exception that I have not used quinine in large doses, as he does. I am sure his use of pituitrin, adrenalin, and caffeine as pressor agents when the pulse rate equals that of the systolic pressure or Gibson sign is a good one to follow. I also agree with him in the use of small doses of digitalis from the very beginning of the disease up until the time when the respiration rate comes within ten points of the diastolic blood pressure, when one should immediately use large doses and thoroughly digitalize the heart. I agree with him that pituitrin is more effective than adrenalin but not so rapid

in its action, and for that reason I use these agents according to symptoms. Pituitrin is also of value, I believe, where there is threatened pulmonary edema and for the tympanites, and probably, as Doctor Cohen points out, in the treatment of acute dilatation of the stomach, which is probably more common than we have been accustomed to think.

Caffeine, of course, is to be used in emergencies. Doctor Cohen, as I mentioned before, uses quinine in very large doses. With the dihydrobromide of quinine and urea double hydrobromide of quinine given intravenously, he believes that quinine is not only a pneumococcicide but also believes that it neutralizes the tissue toxins as well. As I said, this I have not tried, but coming from a man like Doctor Cohen, I believe it well worthy of trial.

The only coal tar derivative which I use is aspirin and I do not use that often during the treatment of pneumonia. I do, however, believe that a few doses during the respiratory infection before the pneumonia has really developed is of a good deal of benefit. In some pneumonia cases I find that a dose of aspirin of five or ten grains will make the patient stop coughing, make him more comfortable and put him off to sleep even better than morphin, and I believe does no more harm.

The one drug which I use perhaps more than any other in practically all cases is belladonna, and especially do I believe that it should be used during the respiratory infection preceding the pneumonia. It keeps the secretions dried up, checks the cough and, I am inclined to believe, has a good deal to do in the prevention of a good many cases of pneumonia.

If the cough is troublesome, I do not hesitate to use morphin, heroin, or codein, and I am sure these drugs are very definitely indicated at certain times. I have entirely abandoned the use of expectorant cough mixtures and feel that they may do an immense amount of harm. If there is asthma, adrenalin is indicated and frequently gives very prompt and marked relief. For restlessness I use bromide and occasionally chloral. I prefer to give these drugs per rectum rather than by mouth because of less danger of disturbing the stomach.

In the treatment of pneumonia and pre-pneumonia infections alcohol in different forms has

been used. My own experience with this drug has led me to practically discard its use so far as the treatment of pneumonia is concerned. There are certain cases in which its food value may be of some benefit. Especially may this be true in people who are used to alcoholic drinks. Its value as a stimulant in tiding the patient over the crisis I have not been able to substantiate. From my own observation and experience I am led to believe that the less alcohol my patient has used before he developed pneumonia, and the less I prescribe for him, the better are his chances for recovery. I may be classed as a moral zealot when I make this statement, but I assure you I have no religious scruples against the use of alcohol as a medicine any more than any other stimulant, but my observations have failed to show its value. If there is delirium in a patient who has been an old drinker, whiskey will sometimes be of help, I believe. However, I have found that paraldehyde or chloral hydrate given in this condition will usually give even better results.

When there is marked pleural pain I use morphin and the ice bag or heat. I am still old-fashioned enough to believe that, in certain cases at least, the patient is more comfortable with a cotton or flannel jacket and sometimes I feel that they are even more comfortable when it is moist. If the heat about the chest makes my patient uncomfortable and restless, there is no question but that it should not be used.

I have not used the anti-pneumococcus serums to any extent but I think the time is coming when the specific treatment of this disease will be the accepted treatment. One reason why I have not used this is because I have not been in a position to type the different pneumonias. Perhaps I have been too careful about this, for in a recent article by Doctor C. N. B. Cumac of Gouverneur Hospital, New York City, he gave some very good results with the use of a polyvalent serum without typing. After testing for anaphylaxis he uses 100 cc. of serum every twelve to fourteen hours and has seldom had to use more than 300 cc. I have given a few patients polyvalent serum and I think it is quite possible that I gave an entirely too small an amount.

The more common complications occurring are empyema and lung abscess. These, I think, should be treated surgically and I shall not go

into the detailed discussion of this treatment this evening.

The treatment of the patient during convalescence in whatever type of pneumonia is of very great importance and should be very much prolonged over what is usually considered necessary in other diseases.

In conclusion let me simply emphasize the things which I feel should be kept in mind in the treatment of this disease.

First of all—absolute rest in bed from the earliest possible moment; secondly, the use of belladonna, especially in the pre-pneumonic stage, and thirdly, the prompt and accurate use of pituitrin, adrenalin, and digitalis.

Pelton Clinic.

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THE TREATMENT OF LACERATED WOUNDS OF THE SCALP

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The treatment of lacerations of the scalp, due to the anatomical peculiarities of the scalp, differs somewhat from that of lacerations of other parts of the body.

The skin of the scalp is thicker than in any other part of the body and contains hair follicles, sweat and sebaceous glands in great profusion. The hair follicles often perforate the skin and extend down in the superficial fascia beneath the skin. The superficial fascia consists of a network of connective tissue fibres extending from the skin to the aponeurosis of the occipito-frontalis muscle. These fibres are so arranged and are so dense that the three layers, from a surgical standpoint, may be considered as one.

Beneath the occipito-frontalis aponeurosis is a layer of very loose connective tissue which allows free movement between the three upper layers and the pericranium below, a dense thin membrane loosely attached to the skull except at the sutures, where it dips down between the bones.

The scalp is freely supplied by blood vessels, the frontal, temporal and occipital arteries being the principal sources of supply. In the parietal, frontal and occipital regions are small veins com-

municating directly with the sinuses inside the skull.

Infection and hemorrhage resulting from laceration of the scalp are particularly serious because of the ease with which they spread in the sub-aponeurotic and sub-pericranial layers. An infection in the sub-aponeurotic layer, aside from its local manifestations, may give rise to a thrombosis of a communicating vein with a subsequent thrombosis of a sinus. Beneath the pericranium a severe necrosis of the skull may occur.

In treating lacerations of the scalp the hair is first shaved to a distance of at least three inches from the wound. The wound is cleaned with neutral soap and Dakin's solution and the hemorrhage controlled by pressure or ligature. Shreds of tissue are cut away at once. The wound is then packed with gauze saturated in Dakin's solution. The infection which is common in these wounds, if closed by primary suture, is frequently not due to the entrance of organisms from the outside. Particularly when the wound is caused by a blunt instrument, many hair follicles, sweat and sebaceous glands are opened and the organisms which lie dormant in them are released. If the wound is packed with Dakin's solution, such as are released are destroyed and such follicles and glands as are opened, sterilized. Small pieces of devitalized tissue are dissolved and larger ones isolated.

This dressing is repeated every twelve hours until repair is undertaken, usually twenty-four to forty-eight hours after the injury. After thoroughly cleansing the wound as before, the edges are painted with iodine and the whole head covered with two thicknesses of gauze to prevent contamination of instruments and sutures by the hair. Apertures to give free access to the wounds are cut in this gauze. Any devitalized tissue not dissolved by the Dakin's solution is cut away. As the margins are insensitive in lacerated wounds, even in extensive wounds no anesthetic, local or general, is needed, except in children or unusual cases.

To close the wound modified mattress sutures of black silk are used. The needle is inserted about one-half inch from the wound, passes to the bottom of the wound and is brought out the same distance from the other side. It is then passed through both wound edges, very superficially and in the same vertical plane as the first part of the

stitch, the silk drawn through and the suture tied at one side of the wound. With this suture the entire wound margins are approximated, with no possibility of an infolding or overlapping of the margins. Unlike the ordinary mattress suture, it does not interfere with the blood supply of the tissue, and put in as late as this may be drawn snug without danger of overtension from swelling of the tissues.

If the aponeurosis has been separated from the pericranium for any great distance, Carrel tubes are inserted and a smear taken from the depths of the wound before secondary closure. The free blood supply of the scalp preserves the vitality of the raised flaps for a long time.

This method has the following advantages over primary suture:

1. The incidence of infection is reduced.
2. The possibility of hemorrhage beneath the sutures and into the sub-aponeurotic or sub-pericranial space is eliminated.
3. In extensive wounds closure is instituted only after the microscope has shown the wound to be safe for closure.
4. Closure is made after x-ray examination.
5. A more thorough search can be made for fractures.
6. If seriously injured and in shock the routine treatment can be carried out without detriment to the patient.

30 North Michigan Avenue.

LABYRINTHINE VERTIGO WITHOUT MIDDLE EAR PATHOLOGY

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Differential diagnosis and summary of nineteen cases.

Vertigo due to affections of the labyrinth are often overlooked by the general practitioner. In the last five years I have seen nineteen cases of vertigo directly traceable to labyrinth conditions.

Five cases were due to injury; seven to old middle ear conditions; one to hemorrhage, Meniere's disease; six were apparent affections of the labyrinth in which there was normal hearing, no apparent pathology of the drum membrane, eustachian tube or middle ear. It is of this class of patients I wish to speak.

Case 1. Complaint: Patient complains of dizzy

spells coming on at irregular periods, once a week, twice a week and even two spells in one day. Just before the attack he feels somewhat exhilarated; there is a sense of fullness in the head, ringing as of bells far off in one or the other ear, usually the right. Then there is a sensation of having been struck on the side of the head in the region of the labyrinth, right side; a horizontal nystagmus takes place, causing the room to seemingly revolve to the left; this lasts about four minutes. The nystagmus or eye movement becomes slower and slower and finally stops. The patient then has an extreme sense of nausea, his face and hands are pallid and clammy, perspiration appears on the forehead and the attack ceases, leaving a severe headache over the parietal region.

From the beginning to the end of the attack the patient is unable to walk except at a staggering gait, simulating alcoholic intoxication. He is able while sitting to carry on business or talk in a sensible manner and never loses consciousness. The tendency when walking is to stagger to the left.

The attack is brought on by drinking coffee, taking a warm bath, sudden nervous shock, excessive reading, long exposure to the sun or other heat. Constipation seems to be a factor but he has the attack even when the bowels are moving freely.

History of the patient: Age 34, height 5 ft. 10 in., weight 165 pounds. First attack of vertigo came on following a severe mustard gas poisoning during the war. This attack lasted twenty minutes, the patient fell to the ground and while unable to walk never for a moment lost consciousness; following the attack he had extreme nausea but recovered and was treated for gas burns for a period of two weeks. The second attack came on eight months later, while the patient was working outdoors exposed to the sun. He stooped over, an attack came on which lasted fifteen minutes; since then the attacks are more frequent but less severe. Measles were the only childhood disease, no history of any venereal disease.

Family History: Married, wife and children in perfect health. Mother is living in good health, father killed in accident.

Examination of patient: Physical appearance, robust and apparently in good health, chest normal, no rales of consequence; heart slightly enlarged to the left but regular, no murmurs, pulse 72. Eyes, fundus and fields normal, corrected to 20/20 by O.D.=150, O.S.—100.

Ears: hearing normal except for slight tone disturbance, drum normal, eustachian tube patent (Rinne's, Weber's and Schwabach normal) caloric test gives normal reactions. Jones chair test: eyes return to normal after twenty seconds. Nystagmus during the test is normal in all positions. Past pointing is exact.

Nose: septum straight, little nasal pathology.

Sinuses: clear on x-ray and transillumination.

Teeth in good condition; x-ray negative.

Throat: tonsils removed, no larynx pathology.

Laboratory tests: blood pressure 120—80—40. Wassermann negative, urine negative, blood count and

hemoglobin normal. X-ray of head shows no tumors.

During the attack the blood pressure is 140—70—40, dropping to 110—80—30 immediately following the attack, soon returning to normal. Past pointing is to the right on the right side and exact on the left. Nystagmus is violent with slow component to the left. Tinnitus is extreme on the right side and of the bells type lasting several minutes after the nystagmus ceases.

The above is a typical clinical picture of the five other cases.

Case 2. U. S. Veteran's Bureau case, a sailor, stoked furnace on battleship, 28 years of age. He had his first attack in 1919 and has continued to the present date.

Case 3. Boy, aged 12 years, had his first attack at the age of five. The case was diagnosed epilepsy, petit mal.

Case 4. U. S. Veteran's Bureau case. An infantryman in the 42nd Division. He was wounded in the leg and returned to duty, and was gassed in the Argonne drive; spent three weeks in the hospital. The first vertigo attack occurred at the time he was gassed and he has had slight vertigo attacks ever since.

Case 5. A young woman, 20 years of age. The stomach symptoms in this case were severe. She had been treated by the family physician and a specialist for gastritis and later treated by an ophthalmologist for ophthalmic migraine. The symptoms in this case were identical with case one, with the exception of the extreme nausea and at times projectile vomiting. No brain tumor could be demonstrated.

Case 6. Physician, 54 years. Weight 185 pounds, apparently in good health. He has had vertigo attacks for twenty-eight years. The first attack came on while witnessing a baseball game and exposed to the sun. The attack lasted about ten minutes, during which he was unable to walk. He is now able to walk fairly well during the attack, but has extreme nausea when the nystagmus stops.

I am of the opinion that the pathology in these cases is entirely labyrinthine. The crista ampullaris of each semi-circular canal is an end organ of the vestibular nerve and plays an important part in maintaining the body equilibrium under normal conditions. In labyrinth disease and under excessive induced stimulations the equilibrium is disturbed and we get nystagmic eye movements. These signs are divided into "Signs of destruction disharmony" and "Signs of stimulation disharmony."

In the cases under discussion we have only to deal with the stimulation disharmony. This disharmony is caused by the stimulation of the endolymph current in the semi-circular canals. The movement of the endolymph sends impulses through the hair cells lining the canals along the nerve tracks to the eye, causing nystagmus in

the plane of the canal involved. When the tonus impulses from one labyrinth are suddenly suppressed or disturbed the equilibrium between the two labyrinths is broken and the tonus from the normal labyrinth acting without the proper restraint of the impulses from the opposite side causes a loss of body equilibrium.

The impulses from the two labyrinths being equal though antagonistic, a state of equilibrium is thus maintained, but in the cases cited one or the other labyrinth is made extremely sensitive by some severe external stimulation, such as exposure to sun, mustard gas or perhaps a certain predisposition toward any slight stimuli that increases as the patient grows older; even exposure to heat such as foundry furnaces will produce this condition.

Thus anything which tends to raise the blood pressure or a cranial hyperemia will cause exosmosis of a slight drop of serum from the lining capillaries of the labyrinth, thus stimulating the endolymph which transmits this to the fine hair-like nerve ends in the labyrinth. As this occurs on one side at a time it throws the equilibrium center off balance on one side, producing a "stimulation disharmony" with its accompanying symptoms of vertigo, nystagmus, nausea, etc., as pictured in case one.

Differential diagnosis: Hysteria sometimes simulates this condition only in a very superficial way. The nystagmus is not present or does not have a quick and slow component. If equilibrium is disturbed the body falls in any direction, never with any rule or certainty, whereas in the labyrinth type the patient always falls in the direction of the slow component of the nystagmus.

Polypus attached in the neighborhood of the stapes: In these cases there is a continued sense of fullness in the ear and a distinct subjective circulatory tinnitus and continuous vertigo with partial deafness.

Anemia of the labyrinth: This condition is accompanied by general anemia and chlorosis. There is deafness, distressing tinnitus and perhaps a history of loss of blood.

Hemorrhage by accident or atheromatous changes: The attack is long in duration and does not clear up in a few minutes as in the cases depicted above.

Disease of the eighth nerve: Involvement of

the vestibular branches. In such a case as this the attacks are continuous and affected in no way by blood changes. Deafness may or may not be present.

Mumps: By history, etc.

Cerumen pressing on the drum is easily seen.

Ménière's disease: The differential diagnosis from Ménière's disease is perhaps more difficult. Here we have a sudden effusion of blood into the semi-circular canals followed by deafness, while in the cases under consideration there is no deafness, in fact the hearing is often more acute than normal. Loss of consciousness is found in Ménière's and never in the other cases, while Ménière's is said to be due to excessive heat of the sun, the rush of blood to the labyrinth is so great it causes a hemorrhage directly into the labyrinth, while in these cases of stimulation disharmony there seems to be no hemorrhage. Where blood is in the endolymph it does not absorb for several days or weeks.

Treatment: Amyl nitrate perles lessen the attack. Dose of $\frac{1}{4}$ to $\frac{1}{2}$ grain of quinine acts as a sedative to the vestibular apparatus. Alcohol and coffee should not be used; sponge baths of cold water, never hot baths, moderate exercise, avoidance of nerve disturbances, extreme heat or anything which tends to raise the blood pressure should be avoided.

I asked Dr. Barany when he was in this country if he thought excessive eye fatigue could reversely affect the labyrinth the same as irritation of the labyrinth affects the eye along the same nerve tracks. He replied that he did not think so. I disagree with him. A hyperemia of the labyrinth caused by increased pressure in the cranial vessels or a direct reflex action following eye fatigue seems possible to me.

FOCAL INFECTIONS OF THE HEAD *

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One of the biggest advances made in the practice of medicine was the discovery of the important rôle that focal infection played in the cause of systemic and chronic diseases.

A focus of infection is a circumscribed area of tissue infected with pathogenic bacteria; it may be primary or secondary. Primary foci are usually located in tissues communicating with a

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cutaneous or mucous surface; while the secondary are due to infections of contiguous tissues or at a distance through the blood stream or lymph channels.

Focal infections of the mouth and upper air passages are very prevalent and are the basis of many systemic infections.

As the mouth is the portal of entry of all food and the nose and throat of all air, it can readily be seen that any infectious foods or air are readily absorbed by the mucous membranes and tissues of the nose, throat and mouth.

The most prevalent organisms of the mouth are the *entameba buccalis*, *bacillus coli*, and various saphrophytes. In the saliva and pharyngeal mucus are found streptococci, staphylococci, pneumococci, micrococcus catarrhalis, diphtheria, pseudo diphtheria, influenza and tubercle bacillus,, besides other pathogenic organisms.

They are not only a menace to the person who has these infectious materials in his head but he infects others by contact, such as sneezing, coughing, etc. These bacteria may be of the latent type but may become very virulent at any time, due to exposure to cold, physical or mental exhaustion, debility, alcoholic dissipation or exposure to any of the infectious diseases.

Ear. Focal infections of the ear are generally due to otitis media or chronic mastoiditis; these usually follow the various infectious diseases, such as measles, scarlet fever, influenza, pneumonia, tonsillitis and also as a direct extension through the eustachian tube from chronic infected tonsils and adenoids.

The most common symptom is the discharging ear, at times pain in ear or mastoid region, always more acute following a cold, the patient's general health is nearly always poor.

The streptococci and pneumococci are the most common organisms found, but at times the influenza and *bacillus coli* are found.

As these infections go on there is usually more or less bone necrosis of the ear and mastoid region. The danger in these cases is not only deafness or the chronic infection in the ear and mastoid but by direct extension and through the blood stream, and due to the close proximity of the brain you often get a sinus thrombosis, meningitis, brain abscess and other infections.

Treatment. Keep ear clean, build up patient's general health; if tonsils and adenoids

are enlarged or infected remove them, as they are the basis of the infection in a large number of cases; if removal does not improve the condition it may be necessary to do a simple or radical mastoid operation.

Nose. Focal infections of the nose are generally due to adenoids or sinus infections, but as the adenoids are more intimately connected with the tonsils we will consider them later. Sinus infections may begin as a direct infection of the sinus or secondary to some intranasal condition, or secondary to an infectious disease such as influenza, enteric fever, measles, scarlet fever, diphtheria and other infectious diseases, especially common colds. They are very common in the various deformities of the nose, as enlarged turbinates, deflected septums, etc. In at least 25 per cent of these infections of the antrum, the teeth are the cause of the infection, due to the alveolar abscess or root abscesses rupturing through the thin alveolar wall of the antrum. This type produces a fetid pus. It is generally due to the *bacillus coli*, sometimes micrococcus catarrhalis or influenza bacillus.

Pathology. There is a chronic inflammation of the mucous membranes leading to a rounded or serous infiltration which may go on to the polypoid or cystic degeneration, periostitis and in some cases osteitis and caries.

Symptoms. There is more or less sinusitis in every acute cold, but as long as drainage is good it does not cause any serious symptoms. The two most common symptoms are pain and tenderness over region of cavity of a neuralgic character. The most common seats of pain are over the cheek in antrum infections, over the eyes and lower frontal region in maxillary or frontal infections, a little higher over frontal region in frontal infections, over bridge of nose and top of head in ethmoidal or sphenoidal infections, behind and above ear on occipital region in sphenoidal infections.

Obstruction in breathing occurs in nearly every case due to the swelling of the turbinates and the acute inflammation or chronic hypertrophy. Discharge varies according to the amount of obstruction, general health, type of infection, etc. These infections may travel downward, infecting the whole respiratory or digestive tract.

Treatment. Build up a general health, correct all nasal obstructions, keep nose clean, get good

drainage, lavage or clean out sinuses; if of dental origin take care of teeth.

Adenoids are made up of lymphoid tissue situated in the posterior nasal pharynx. They become infected from direct extension of infections of the throat or nose. These infections also cause them to enlarge. The characteristic symptoms of adenoids are: Mouth is open, lips thick, upper one elevated in middle, teeth crooked and projecting, chin recedes, alae nasi atrophied and pinched, arched palate, flat chest, etc. The infection may travel forward and infect the nose, upward and infect the ears or eyes, or downward, infecting the tonsils, pharynx, lymph glands or the lungs.

Treatment. Only satisfactory treatment is removal.

Tonsils. Tonsils become infected through contaminated air, infected food, especially milk, and by direct contact with individuals, also during colds and other infectious diseases. The organisms found are of the same type found in sinus and adenoid infections.

Pathology. Pathology varies between a simple hypertrophy to hyperplasia, lacunar or fibroid degeneration.

Symptoms. It varies according to the type of infection present, also whether or not there is any obstruction in breathing and to amount of infection present. The size of the tonsil does not always give you indications for removal.

Secondarily, you often find infections of the pharyngeal lymph nodes and glands of the neck and head, often causing glandular fever, but of late years we do not see these cases very often. Taking better care of the teeth and tonsils is one of the main reasons for this, but at times these infections persist even after the removal of tonsils and adenoids.

EFFECTS OF FOCAL INFECTIONS OF THE HEAD ON THE BODY

Eyes. Up to several years ago practically all infectious conditions of the eyes were thought to be due to syphilis, but lately we have realized the importance of focal infections as a cause of many of these conditions. Due to the intimate connection with the nose, the eyes become easily infected. Some of the most common affections are:

Chronic conjunctivitis, keratitis, iritis, cyclitis, retinitis, choroiditis, corneal ulcers, optic neu-

ritis, optic atrophy, asthenopia, affections of the muscles and nerves of the eye.

Respiratory Tract. Due to direct extension of the infection often you have a bronchitis, infection of mediastinal lymph nodes, pneumonia, tuberculosis, bronchiectasis, asthma, very frequently due to anaphylaxis caused by the infection, hay fever from same cause.

Digestive Tract. Gastritis, gastric and duodenal ulcers, enteritis, colitis, cholecystitis, appendicitis, pancreatitis, and the various nervous indigestions; these are caused by swallowing the infectious material from nose, throat and mouth, also through the blood stream. Various strains of streptococci found in nose, mouth and throat seem to have a predilection for the appendix and other tissues of the digestive tract.

Genito-Urinary Tract. Glomerular nephritis, pyelitis and cystitis are often secondary to focal infections, they generally occur through the blood stream.

Muscles and Bones. Rheumatism, myositis, arthritis, lumbago, osteomyelitis and other infections occur very frequently following focal infections. These conditions are due to infection carried by the blood stream, also due to effect infection has on metabolism.

Blood. Have a secondary anemia in all chronic infections, also have an acidosis, probably due to the low calcium content of the blood in these cases.

Endocrines. The thyroid gland is affected in practically all these cases and becomes normal in action when the teeth, tonsils and sinuses are treated properly.

Adrenals. They are stimulated at first but later are depleted more or less; these are the cases that have the asthmas, urticarias, etc.

Pituitary is often affected, causing disorders of growth, sugar metabolism and affects on vegetative nervous system. Various other glands are stimulated in some cases and suppressed in others.

Nervous System. Have neuritis, neuralgias, epilepsy, meningitis, brain abscesses and other infections of the nervous system. Besides all kinds of neuroses, hysterias, neurasthenias are due to the effect on sympathetic and vegetative nervous system, also effect on various endocrines.

Vascular. Endocarditis, myocarditis, pericarditis, arrhythmias, arteriosclerosis, hypertension

and hypotension are very prevalent in focal infections.

Conclusions: 1. Focal infections are the basis of most chronic and systemic diseases.

2. Careful examination, history, x-rays and examination of teeth by dentist may be necessary for a diagnosis.

3. Prognosis is better the earlier the infection is treated.

4. Treatment may be medicinal, physiotherapy or surgical.

5. These are the cases that make the rounds of the doctors, ending up with the chiropractor or faith healer.

Lincoln Theatre Building.

Society Proceedings

ADAMS COUNTY

Special Meeting, March 25, 1924

This was a special meeting called by the President to discuss the advisability of specially celebrating the 75th anniversary of the Society in 1925. Fifteen members were present. The committee appointed at the previous meeting (Drs. Swanberg, Koch and Stevenson) reported that it was highly desirable that this unusual event be celebrated in some special manner. This report was concurred in by the membership and a motion was carried that a committee of seven be appointed to begin to formulate plans now for the celebration. The Chair appointed Drs. Wells, Swanberg, Irwin, Center, Nickerson, Koch and Stevenson.

The Adams County Medical Society was formally organized on March 28, 1850, having had a pre-organization meeting prior to that date. So far as we have been able to investigate, this Society is the oldest in Illinois that has had continuous existence. It outdates the formation of the Illinois State Society by a few months—the State Society being organized in June, 1850. In view of this record of 75 years of continuous organization with regular meetings it seems very fitting that we celebrate our diamond jubilee in some unusual manner. The committee appointed is already laying plans to have one of the largest medical meetings in Quincy in 1925 that has ever been held in Western Illinois and expects to have an attendance from all over the Middle West.

Meeting of April 14, 1924

This regular meeting of the Adams County Medical Society was called to order by the President, Dr. Warren Pearce. There was a total attendance of 38 including the following members: Drs. Austin, Bowles, Beirne, A. H. Bitter, Caddick, Cohen, Davidson, E. J. Gabriel, M. C. K. Germann, Groves, Garver, H. Germann, Knox, Knapp, Koch, Knapheide, Litchfield, Ray Mercer, Montgomery, McReynolds, W. E.

Mercer, J. E. Miller, Nickerson, Pearce, Pfeiffer, Pollard, Reiffert, Swanberg, Stevenson, Wells, Werner, Williams, A. K. Germann and Jurgens and four guests Drs. H. W. McKim, Newark, Mo., C. K. Gabriel, Quincy, J. C. Brown, Edina, Mo., and G. Wilse Robinson of Kansas City. The minutes of the regular and special meetings held during March were read and approved.

Dr. Ralph McReynolds, chairman of the Committee investigating charges of a physician practicing in this county without a license reported the progress that the Committee had made and read the correspondence that had passed between the Committee and the State Department of Registration and Education. Inasmuch as the investigation was not completed it was moved by Dr. Harold Swanberg that the Committee be continued. Seconded and carried. Dr. C. A. Wells reported for the "On to Springfield Convention Committee." He urged that every member endeavor to attend the State Society meeting and that we should have an attendance of at least 25. When a standing vote was taken of those agreeing to attend 15 stood up. Dr. J. A. Koch, local chairman of the Newspaper Publicity Campaign of the State Society reported he was in receipt of a communication from the State Society that the campaign was now on and that anyone who had suggestions to offer or comments to make in any way should communicate with him.

The Secretary stated that at each meeting an attendance sheet would be circulated among those present and each one should sign same in order that the attendance of all may be recorded accurately for publication in the Bulletin. He also called the attention of the members to the Bulletin advertisers and urged all to patronize them. The members were also called to the attention of the fact that there was no provision in the Constitution or By-laws for associate membership in the society and that this was very desirable because of the fact of several of the societies in this vicinity being totally inactive. The following amendment to the By-laws was submitted and read for the first time. "Physicians residing outside of Adams County in this or any other state may upon application and election become associate members of this society providing they are members in good standing in their respective state medical society. Such members shall not vote, hold office or be subject to any fees, dues or assessments but may enjoy all other rights and privileges enjoyed by the active members of this society. Associate membership in this society will automatically cease when such member is no longer in good standing in his respective state society." A letter from the American Medical Association requesting that some person or persons be delegated to be the representative of Hygeia in this community was read. It was moved by Dr. J. A. Koch that the Secretary be appointed to represent Hygeia in this community. Seconded and carried. The Secretary stated that the program committee was desirous of receiving suggestions for programs and if there were no objections, at the next meeting a symposium would

be held on Periodic Health Examinations, all of the speakers to be members of the society.

The censors reported favorably on the applications of Drs. C. K. Gabriel, J. W. Blan and J. H. Bryant for membership in the society, and they were elected into active membership by ballot.

Dr. J. W. H. Pollard spoke about the advisability of the Adams County Medical Society sponsoring Health Week in Quincy, May 11th to 17th, and to take over the activities of Wednesday and Thursday of that week which were to be devoted to better babies and physical examinations.

Following this a long discussion took place by various members who pointed out some of the evils of state medicine and promiscuous physical examinations of people able to pay for such services. This finally terminated in a motion by Dr. C. A. Wells as follows: "The Adams County Medical Society approves of the Health Week Program as suggested by the Illinois Department of Public Health and agrees to take over the activities of Wednesday and Thursday of that week, and while the membership does not approve of making free public physical examinations of infants and adults, strongly recommends that such examinations be made by the family physician." Seconded and carried.

Following this the membership enjoyed an interesting paper on, "The Schizophrenic Psychoses of the Dementia Praecox Group," by Dr. G. Wilse Robinson of Kansas City, President of the Missouri State Medical Society. This address was illustrated by lantern slides and the paper was discussed by Drs. H. Germann, Nickerson, Montgomery, Beirne and finally closed by Dr. Robinson. Dr. L. H. A. Nickerson made a motion that we extend Dr. Robinson a rising vote of thanks for coming to Quincy to address the society. Seconded and carried. A motion for adjournment was then carried and the meeting closed about 10:45 P. M.

(Dr. Robinson addressed the Quincy Kiwanis Club at noon on "A Way of Living" and a dinner was tendered him by the members of the Adams County Medical Society at the Hotel Quincy previous to the meeting at which there was an attendance of 10.)

HAROLD SWANBERG, M. D., Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, April 2, 1924

1. Obstetrics in Relation to Chronic Gonorrhoea.

Anna E. Blount

Discussion Effa V. Davis

2. Mental Conditions Associated with Disease of the Brain and Cranial Nerves of Special Sense.

Albert B. Yudelson

Discussion.....Ralph C. Hamill

Regular Meeting, April 9, 1924

- Investigation About the Causes of Inferiority of Cow's Milk in Infant Feeding....Prof. H. Finkelstein, Vienna, Austria.

General Discussion

Joint Meeting Chicago Medical and Chicago Roentgen

Societies, April 16, 1924

1. The Spastic Colon.....James T. Case, Battle Creek, Michigan

Discussion opened by Arthur R. Elliott

2. An Important Supreme Court Decision.....

.....I. S. Trostler

Discussion opened by M. J. Hubeny

Regular Meeting, April 23, 1924

- The Irritable Abdomen.....Leonard Freeman, Denver, Colorado

Discussion....Theodore Ticken, Frederick Dyas

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting of February 19, 1923, Concluded

The specimen found at autopsy showed a distinct pouching of the floor of the third ventricle. At the time of the autopsy, it was considered a cyst of the infundibulum of the hypophysis, but after complete hardening and sectioning through the center, it was seen to be a cyst in the floor of the fourth ventricle. The ventricle had become greatly dilated, communicating at this point with the third ventricle, also greatly dilated, and markedly enlarged and dilated lateral ventricles. A section of the portion of the wall of the cyst of the floor of the fourth ventricle showed that the lining consisted of marked hypertrophy of the ependyma of the wall of this ventricle.

In the third case, the patient entered the Cook County Hospital with a diagnosis of brain tumor, and complained of blindness in the right eye of about six months duration. She had headaches but no vomiting. An interesting point in the history was that she had intermittent rhinorrhea, with which her headaches were relieved for a time.

Examination showed right exophthalmos, complete external and internal ophthalmoplegia, and right optic atrophy. In addition she had an ulceration, old and healed, of the soft palate, producing a complete destruction of the uvula, and a marked reduction in the size of the nasopharynx.

The day before she died, X-ray plates showed marked cloudiness of the right ethmoid cells. There was a positive blood Wassermann, but negative spinal fluid Wassermann. On the basis of the old, healed, and active gummata in the pharynx, a diagnosis was made of basilar meningitis, probably syphilitic in origin, with the possibility of a gumma behind the eyeball responsible for the exophthalmos.

At autopsy, it was found the exophthalmos had largely disappeared, lending support to the view that this might have been a syphilitic affair. An interesting finding was a complete destruction of the right optic nerve, by an acute suppurative process. This necrosis and suppuration involved the right optic nerve, the posterior and anterior clinoid processes of the hypophysis, and the hypophysis was completely destroyed as far as could be determined from the gross examination. Opening into the anterior ethmoid cells, more suppurative necrotic material was found, destroying the cells; and the ethmoid bone in the region of the cribriform plate was involved in the

necrotic process over an area of two by three centimeters. There was no meningitis except a localized meningitis in the region of the optic nerve. The lesion was right in the chiasm and posterior to it, involving the hypophysis.

DISCUSSION

Dr. Lewis J. Pollock, by invitation, stated that he was particularly interested in the first two cases, because of the importance of recognition of lesions of the third ventricle in the production of signs referable to the optic nerves, the oculomotor nerves and the pituitary body. In 1909, Dr. Weisenburg collected 27 cases of tumor of the third ventricle. These tumors did not give rise to any definite symptomatology, but oculomotor disturbances were very common.

Hydrocephalus with cystic third ventricles frequently produced the clinical picture of a tumor of the third ventricle. He had the opportunity of examining such a brain post-mortem. The patient had shown a bitemporal hemianopsia, and a marked dysfunction of the pituitary body with gross adiposity. When the pituitary body was compressed by a cystic third ventricle, the pineal body likewise suffered as the result of the same mechanism.

Dr. Clark W. Hawley said he sent the second case to the Cook County Hospital. He made a diagnosis of brain involvement of some kind, just what, he did not know. The description given by Dr. Fink of the condition of the eye was absolutely as he found it, and it was most difficult to make out the changes in the fundus because of the condition of the vitreous and lens. The pupil was widely dilated. She was the happiest patient he ever saw. She was smiling all the time and perfectly contented.

Dr. Fink in closing, stated that microscopic examination of the first tumor, taken from the original specimen as removed from the region of the hypophysis and from the floor of the third ventricle, showed it to be a basophilic cell type of pituitary tumor, described by Irving as an adenocarcinoma of the pituitary.

The question of extensive infiltration of this tumor was of interest in connection with the pituitary syndrome. Here he had a very extensive infiltrating tumor arising from the anterior lobe of the hypophysis and producing the so-called hypophysis syndrome. Whether in such a case as this the adiposity, increased sugar tolerance, and polyuria should be ascribed to disturbances of the pituitary body rather than to some disturbance of the third ventricle, or the other region of the infiltrated tumor, was a question open for discussion; and one on which a good deal of work was being done at the present time.

As to the pathology in the second case, this condition was entirely congenital, due to obstruction of either the foramen of Magendie or the foramina of Key and Retzius.

The third specimen was of great interest from a clinical standpoint as demonstrating the possibility of unilateral involvement following sinus infection, but this was a rare complication. In connection with this tumor there was also septic thrombosis of the cavernous sinus on the right side.

CLARENCE LOEB,

Corresp. Secretary.

MADISON COUNTY

Our April Meeting

The Madison County Medical Society met in Edwardsville on April 4, 1924, with President Dr. R. S. Barnsback in the chair.

By vote the reading of the minutes was dispensed with.

Upon favorable report of the Board of Censors, Dr. J. H. Stevens of St. Jacob, was elected to membership.

The Committee, appointed to meet with the Sani-

tarium Board, made its report which was accepted and the Committee continued.

The special order for the meeting was continued to the next meeting on account of lack of time.

The Secretary was instructed to publish a special edition of *The Madison County Doctor* to be used as publicity material to counteract the plan of transferring the Sanitarium Fund to the general County treasury as advocated by the Farm Bureau. He was also authorized, in connection with the Sanitarium Committee, to finance all necessary expense in our campaign in opposition to above movement, all bills to be paid out of the fund of the Anti-tuberculosis Association.

The members present enjoyed an all day School of Instruction on "Tuberculosis," a full account of which will be found on another page of this issue.

On motion adjourned.

PIKE COUNTY

The Pike County Medical Society met in Pittsfield April 24 with an attendance of thirty physicians, members and guests. The weather and roads were quite favorable for a large gathering and quite a number of guests motored a distance of forty or fifty miles. Dr. J. I. Doss of Milton the president being unavoidably absent, the vice-president, Dr. W. W. Kuntz, presided. The minutes of the last meeting being read and approved, the election of officers for the ensuing year was taken up with the following result:

President, W. W. Kuntz, M.D., Barry.

Vice-President, S. L. Smith, M.D., Pittsfield.

Sec-Treas., W. E. Shastid, M.D., Pittsfield.

Delegate to the State Society, W. E. Shastid, M.D., Pittsfield.

Alternate, T. D. Kaylor, M.D., Barry.

The request for "American Aid for German Medical Science" was then read by the secretary, as also the communication of the A. M. A. Journal in reference to the lay magazine "Hygeia." It is hoped that the usefulness of this periodical may be greatly amplified by larger and larger subscriptions.

The society favored the proposition to have a school of Instruction as outlined by the Illinois Tuberculosis Association and hopes to have a team visit the county at no distant date.

As time goes on, it becomes more and more evident that all agencies must be used that are at all available to fight this plague and protect the lives of all our citizens. Education and instruction are two of the greatest agencies of all; let us use them to the limit.

Dr. Harold Swanberg of Quincy started the scientific programme by presenting a very comprehensive and instructive paper on "The X-Ray in General Practice."

The paper was illustrated by many stereopticon slides and received much favorable comment. It was discussed with much interest by Drs. Chapin, Bowe, Norris, Koch and Stevenson.

Dr. F. A. Norris of Jacksonville then read a very

thoughtful and analytical paper on "Gastric and Duodenal Surgery," covering many of the details and much of the operation technique related to this subject.

Discussion was general and many important facts stressed.

Dr. Ellsworth Black of Jacksonville closed the day's programme with an exceptionally fine paper on "Papilloma of the Bladder with Prostatic Obstruction."

He covered his subject in a scientific way, which showed elaborate preparation.

Society adjourned about 5 p. m.

W. E. SHASTID, Secretary.

Personals

Dr. John C. Geiger, epidemiologist for the U. S. Public Health Service, and assistant professor of epidemiologist at the University of Chicago, has been appointed assistant commissioner of health and epidemiologist in the Chicago Department of Health.

Dr. Phillip A. Scott of St. Luke's Hospital, Chicago, has been appointed director of the department of pathology at the Tacoma General Hospital.

Col. Patrick J. H. Forrell, Chicago, has received the silver star from the war department for gallantry in action against the Spanish forces in attending wounded under fire at Manila, Philippine Islands, August 1, 1898.

Dr. George M. Curtis of the University of Chicago addressed the Chicago Society of Internal Medicine, April 28, on "The Production of Experimental Diabetes Insipidus."

Dr. Durward R. Jones, Chicago, has been appointed health officer of Pennington County, South Dakota, to succeed Dr. Henry J. T. Ince.

Dr. S. A. Waterman, head surgeon of Auburn Park Hospital, Chicago, has purchased the Cottage Hospital of Norwood, Ill.

Dr. Dean Lewis of Chicago addressed the Champaign County Medical Society April 10, 1924.

Dr. R. W. McNealy, Chicago, delivered an address on "Newer Problems in Blood Vessel Surgery," before the Erie County Medical Society April 1 at Erie, Pennsylvania.

Dr. Marion C. Dale recently celebrated his fiftieth year of practice in McLeansboro.

Dr. Thomas A. Mann of North Carolina has succeeded Dr. Raymond V. Brokaw as director of the Morgan County Public Health Department.

News Notes

A joint meeting of the Chicago Medical Society and the Chicago Roentgen Society was held April 16. Dr. James T. Case, Battle Creek, Mich., spoke on "The Plastic Colon."

At the meeting of the Chicago Neurological Society, April 17, Dr. William A. White, Washington, D. C., spoke on "The Comparative Method in Psychiatry."

The contract has been let for the seventy-five bed addition, power house and laundry for the Norwegian Lutheran Home and Hospital on Leavitt street at a cost of \$200,000.

According to reports, Dr. Charles McCormick, head of the "McCormick Medical College" was fined \$100 by Judge Carpenter, April 21, when he pleaded guilty of sending obscene matter through the mails.

The staff of St. Anthony's Hospital, Rock Island, gave a dinner to Dr. George L. Eyster, March 27, in commemoration of his fiftieth year of practice in Rock Island. Dr. Thomas J. Watkins of Chicago gave an address.

The Salvation Army formally opened a new maternity hospital and home on North Crawford Avenue, April 14, which was erected at a cost of \$280,000. It was designed particularly for unmarried mothers, and will accommodate seventy-five women and forty babies.

A joint meeting of the Institute of Medicine and the Society of Medical History of Chicago was held April 11. Dr. John D. Comrie, lecturer in clinical medicine and the history of medicine, University of Edinburgh, Scotland, spoke on "Four Centuries of Anatomy at Edinburgh."

According to reports, Dr. Michael T. Naughton, recently convicted on two indictments charging violation of the Harrison Narcotic Law, was sentenced March 29 by Judge Cliffe to serve two five-year sentences concurrently in the Fort Leavenworth penitentiary.

The attorney general of Illinois has informed the Chicago Medical Society that he is unable to provide attorneys for the enforcement of the Medical Practice Act. The council of the society has therefore appointed a committee to solicit funds by voluntary subscription to be used to defray the expense of defending the Medical Practice Act against attacks. Members of the medical profession are asked to contribute to this fund.

The mayor has submitted an ordinance to the

city council providing for a board of health headed by the health commissioner and including the city physician, commissioner of public works, chief of police and corporation counsel. The Supreme Court has decided that the city cannot enforce sanitary regulations unless they have been approved by the state board of health or by a local board. The proposed new board would be empowered to make rules and regulations.

As a means of stimulating birth registration, the state department of public health has issued engraved certificates of birth to parents of all children, except those not registered, born in the state outside of Chicago, from July-November, 1923. The number of certificates already issued is approximately 30,000. Parents of children born in the period indicated, who have not received certificates are informed that the births concerned has not been properly and legally recorded.

The state department of public health has completed arrangements to establish a branch diagnostic laboratory in connection with the Decatur and Macon County Hospital. Work at this laboratory will be confined to the examination of cultures for the diagnosis of diphtheria which will be done under the direction of Dr. Bartlett C. Shackford. This brings the total number of such branch laboratories in the state to seven, the other six being located at Chicago, Galesburg, Moline, Ottawa, Urbana and East St. Louis.

The annual meeting of the Rock Island County Medical Society was held in Rock Island, April 8, 1924. The following officers were elected: President, Dr. A. T. Leipold, Moline; Vice-President, Dr. Ralph Dart, Rock Island; Secretary, Dr. Phebe L. Pearsall, Moline; Treasurer, Dr. H. D. Paul, Rock Island. Dr. L. J. Osgood of Waukegan, Illinois, gave the chief address of the evening.

Deaths

JACOB W. BOLOTIN, Chicago; Chicago College of Medicine and Surgery, 1912; a Fellow A. M. A.; formerly instructor of physical diagnosis at his alma mater and on the staffs of the Livingston County Sanitarium, Pontiac, and the La Salle County Tuberculosis Sanitarium, Ottawa; aged 36; died, April 1.

SARAH H. BRAYTON, Evanston, Ill.; New York Free Medical College for Women, New York, 1875; a Fellow A. M. A.; aged 70; died, April 4.

CURTIS BROWN, Marion, Ill.; Missouri Medical

College, St. Louis, 1874; member of the Illinois State Medical Society; aged 70; died, March 25.

GEORGE W. CLENDENEN, Fulton, Ill.; Bennett College of Eclectic Medicine and Surgery, 1884; aged 79; died March 11, of senility.

ELSPETH M. CONNER, Chicago; Harvey Medical College, Chicago, 1898; a Fellow A. M. A.; member of the Chicago Pediatric Society; aged 59; died, April 8, of heart disease.

ALBERT B. CULLEY, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1906; aged 46; died, March 31, of pneumonia.

CHARLES VICTOR ELLINGWOOD, Chatsworth, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1887; aged 65; died, March 17, following a long illness.

LEOPOLD FRANKEL, Chicago; University of Budapest, Hungary, 1893; a Fellow A. M. A.; aged 54; died, April 2, at St. Joseph's Hospital, of pneumonia.

SAMUEL M. GREEN, Walnut, Ill.; University of Louisville (Ky.) Medical Department, 1889; Civil War veteran; aged 81; died, January 29, at the Illinois Soldiers' and Sailors' Home, Quincy, of senility.

HARLAN HARVEY HART, Bloomington, Ill.; Northwestern University Medical School, Chicago, 1921; aged 29; on the staff of the Brokaw Hospital, where he died, April 2, of pneumonia.

JEAN PIERRE EDMOND HEINTZ, Chicago; Jefferson Medical College of Philadelphia, 1889; aged 67; died, March 24, of edema of the lungs.

BAYARD TAYLOR HOLMES, SR., Chicago; Chicago Homeopathic Medical College, 1885; a Fellow A. M. A.; Chicago Medical College, 1888; formerly professor of surgery, University of Illinois College of Medicine, Chicago, and the Chicago Medical College, and on the staff of the Cook County Hospital; author of several works on surgery and on insanity; aged 71; died, April 1, at his winter home in Fairhope, Ala., of heart disease.

JANET GUNN, Decatur, Ill.; Northwestern University Woman's Medical School, Chicago, 1889; for fifteen years director of the Arlington Heights (Ill.) Sanitarium, and at one time on the staff of the Mary Thompson Hospital, Chicago; aged 68; died, April 1.

MARIA BLAIR MAVER, Chicago; Rush Medical College, Chicago, 1906; associated with Dr. Howard T. Ricketts in his work on Rocky Mountain spotted fever; aged 60; died, April 1, at the Presbyterian Hospital, of hyperthyroidism and bronchopneumonia.

WILLIAM W. HANES, Mount Morris, Ill.; Physio-Medical Institute, Cincinnati, 1883; member of the Illinois State Medical Society; formerly county coroner; aged 63; died, March 11, of jaundice.

HENRY LINDLAHR, Chicago; National Medical University, Chicago, 1904; aged 62; died, March 26, of pneumonia.

ARCHER C. RAGSDALE, Alton, Ill.; Detroit (Mich.) College of Medicine and Surgery, 1889; Barnes Medical College, St. Louis, 1901; at one time superintendent of the Creal Springs (Ill.) Sanatorium; on the staff of the Alton State Hospital, where he died, March 14, of influenza and meningitis, aged 62.



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THE ILLINOIS STATE MEDICAL SOCIETY

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W. F. GRINSTEAD, Cairo	1926

State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original articles and all communications relating to advertisements to Dr. Charles J. Whalen, Editor, 6221 Kenmore Avenue, Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 7626 Bosworth Avenue, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

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Editorial

THE ANNUAL MEETING

The seventy-fourth annual meeting of the Illinois State Medical Society was held at Springfield, May 6, 7 and 8. The headquarters was the new Elks building and all the meetings of the sections and House of Delegates were held there. Over 600 physicians registered their attendance; many neglected to register so that the actual attendance was therefore much larger. Evidently only one in every twelve physicians in Illinois was interested in the annual meeting to such an extent that he gave up a few days of practice to attend. This percentage is as good if not better than the percentage of attendance of doctors at the annual meetings in other states. The scientific program was up to the high standard of previous meetings; several well known men from other states attended the session and gave addresses of a very technical character. The returns to the individual physician were well worth the time and expense of his attendance; he not only heard the most scientific and up-to-date methods used in medicine, surgery and the specialty, he also saw the legislative machinery of the medical society in operation, and took part in it if he wished to do so. The house of delegates met regularly and transacted a great amount of business that will redound to the benefit of the profession. The reports from the various committees show that during the past year the society has made unprecedented progress in solving the public and civic problems of medicine; that the medical society has broadened its lines of work, and has entered upon a new era of influencing the people generally by means of its public activities, not the least of which has been the campaign of education that is being conducted by the lay educational committee of the society. One of the few times in the history of the house of delegates when practically all members responded to the roll call at the opening

session Tuesday night. The reports of the officers and of the numerous appointed and elected committees were presented in a masterly form and demonstrated clearly that the profession is at last becoming alert to the dangers operating at present that will ultimately destroy the integrity and usefulness of medicine if not corrected. It is gratifying to note that physicians are learning of the need of sinking their individual preferences and combining on a broad platform of essentials.

The daily newspapers of Springfield showed every effort to co-operate with the officers of the organization in their attempt to give accurate report of the meetings.

Dr. J. C. Krafft of Chicago was made president-elect; Dr. H. M. Camp of Monmouth was elected secretary; Drs. John S. Nagle, J. H. Walsh and Charles J. Whalen, all of Chicago, Dr. Edwin P. Sloan of Bloomington and Dr. T. O. Freeman of Mattoon were the newly elected delegates to the A. M. A. We have every reason to expect that the new president, president-elect and the other newly elected officers will carry on a strenuous campaign of efficiency in behalf of the interests of the profession that has characterized the terms of their predecessors.

MEDICAL PRACTICE ACT IS HELD CONSTITUTIONAL

The physicians of Illinois scored a point May 26 in the controversy over the Medical Practice Act of 1923 when Judge Marcus Kavanaugh of the Criminal Court upheld its constitutionality in the case of Margaret Kabana, a chiropractor proved to have been practicing without a license.

In reply to Clarence Darrow, attorney for the defense, who argued for his client solely on grounds of the unconstitutionality of the act, Judge Kavanaugh said: "This seems to me clearly constitutional. I also regard it as wise legislation. Without such a measure, persons having no qualifications whatever would freely engage in the attempt to heal disease and credulous patients would undoubtedly be harmed."

The state was represented by Harry Eugene Kelly, supplied by the Chicago Medical society as special assistant to Attorney General Brundage for cases involving medical practice.

THE SHOEMAKER SHOULD STICK TO HIS LAST, AND THE PHYSICIAN TO THE PRACTICE OF MEDICINE.

We are repeatedly in receipt of letters from physicians throughout the state and elsewhere in which the uniform complaint is that druggists are engaged in the practice of medicine and are not even reprimanded by the Department of Registration and Education.

On the other hand we have heard of some complaint from druggists, especially in the smaller towns, to the effect that there is an abuse of dispensing medicines by physicians. Trafficking with human life is a very serious proposition; highly educated physicians find it a problem to properly diagnose and treat disease. It is neither fair to the patient or the pharmacist to attempt to treat gonorrhea and other venereal diseases in the back room of his drug store. It is not honest for a druggist to recommend consumption cures and other cure-alls to the ailing public. In so doing he may give to the indisposed or sick a feeling of false security, thus inducing him to delay seeking proper treatments and depriving him of the chance to secure an early and accurate diagnosis which is the essence of cure in most instances. The shoemaker should stick to his last. Pharmacists are not equipped for making scientific diagnosis, neither are they equipped for administering scientific treatment. When prescribing druggists operate within the limitations properly delegated to his profession he has not only aided the cause of better practice of medicine but he has also done something towards promoting public health and welfare.

THE A. M. A. AND THE NECESSITY FOR MEDICAL HISTORY—A HISTORY OF A STATE MEDICAL SOCIETY

We quote the following from the March, 1924, issue of the *American Medical Association Bulletin*:

The history of medical organization in the individual states of the Union has not been properly recorded. It is not possible, in some states, to find official records of medical societies that have been continuously active for a long time extending back over a period of more than a few years. In those states in which medical organization has existed for a half a century and more, the story as it has been made is one of wonderful interest; in the states in which medical organization is of a younger development, the story which might now be most accurately recorded will, as time

goes on, and the record is carefully preserved, come to have as commanding an interest as that which now attaches to the history of the more venerable societies.

It is a great pity that the American medical profession does not, generally speaking, duly appreciate the need and the value of an accurately recorded history of the struggles and the triumphs that have been experienced as the workers in the various fields of scientific medicine have devotedly pursued their every day tasks and have honorably discharged their ever present obligations to their profession, their patients and their public. When all our medical schools perform their rightful duty and teach medical history, as it should be taught, a greatly to be desired change will be effected and the true professional spirit will be better nurtured and preserved by the whole practicing profession.

The Massachusetts Medical Society lays claim to the distinction of being the oldest state medical society in point of continuous existence. "A History of the Massachusetts Medical Society—1781-1922," prepared and published by its devoted secretary, Walter L. Burrage, Brookline, Mass., has recently come from the press. It is a most valuable compilation of material from official documents and contemporaneous papers from various sources. Much of the contents will be of entrancing interest to any who wish to be informed about the development of medical organization. Dr. Burrage has rendered a distinguished service in the preparation and publication of this history.

One document, a letter whose identity is now unknown, preserved in Dr. Burrage's history, presents potent argument in favor of medical organization in the days of long ago. It may be applied in some places even today, with as much force, perhaps, as in 1765, when the letter was written. Here it is:

"There has been for some time on foot a proposal forming medical Societies or Associations of Doctors analogous to those of the clergy for more speedy improvement of our young Physicians; as by communicating to each other any Discoveries in any of the Branches of Physick, especially Botany, for which this Country is an ample Field. To get the Profession upon a more respectable footing in the Country by suppressing this Herd of Empiricks who have brought such intolerable contempt on the Epithet Country Practitioner. And to increase Charity & Good Will amongst the lawful members of the Profession that they may avoid condemning and calumniating each other before the Plebeians as it is too common, for the last that's call'd in a difficult case, to do by those that preceded him which we apprehend to be highly detrimental to the Profession and the chief root from which these very Empiricks spring.

"We should deem it a favor to be convinced of the impracticability of such a scheme if it is so, & if not why it may not immediately take place."

Backbiting and thoughtless or purposeful depreciation of the opinion and service of fellow practitioners is just as wrong today as it was in 1765. The fact that those things were engaged in by physicians in the

long gone past contributes nothing of justification for the men who indulge in such a practice in our own time.

ILLINOIS STATE MEDICAL SOCIETY SEVENTY-FIVE YEARS OLD

The history of the seventy-five years' labor in the humanities achieved by the medical profession in the State of Illinois will be a vital factor in next year's diamond jubilee celebration of the society. Works of medical men and women in Illinois since the early annals of Fort Dearborn, dating from 1803 and Dr. "Bill" Smith, pioneer physician, unfold a drama more thrilling than any fascinations of the theater.

For the story of medicine in Illinois is the story of the state itself. Dr. Smith helped the garrison at Fort Dearborn in manual tasks, just as physicians in every community were at once missionary, guides, councillors and physical salvationalists.

Standing today as the greatest medical center in the world, Chicago is proud of the fact that medical education in this metropolis began almost as soon as the village had a charter. Interest in medical science has been a banner crop of the state of Illinois as far back as records go. Nor is this to be wondered at. Where there are people, history is made and where there are people and trouble the physician is at the front.

MEDICAL HISTORY COMMITTEE DESIRES DATA

Preparations for the diamond jubilee of the Illinois State Medical Society are under way. Recommendation to this effect was made two years ago by the Editor of the JOURNAL, and although the work lagged for ten or twelve months, after a second recommendation at the 1923 meeting, and approval by the House of Delegates of the State Society, a start has been made. The task involves the compiling of the history of the State Society and of medical practice in the state since the incorporation of the society in June, 1850.

Appointed by the president of the State Society is a committee consisting of Dr. O. B. Will, Peoria; Dr. George A. Dicus, Streator; Dr. Carl E. Black, Jacksonville; Dr. Charles B. Johnson, Champaign, and Dr. James H. Hutton, Chicago, to work with Dr. Charles J. Whalen as chairman.

A salient point to be borne in mind is that if

this history is to be worthy of the work it aims to commemorate, it must be constructed coherently from the medical history of every community in the state. This means that every physician in the State of Illinois should pause long enough to supply the committee with what data he or she possesses or with information where such data may be procured. Sifting chaff from grain with chopsticks is ultra-easy in comparison with winnowing out the archives of the past. Annals of those sturdy pioneers are only partially found in libraries and court houses. By far the greater portion of desirable memorabilia is apt to be locked in garret chests and faded family albums and scrap books. Will every member of the Illinois State Medical Society make it a point to see that his community is in some way informed that this work is in progress and request for the history committee the loan of documents, pictures, or other mementoes that may be of interest or assistance?

This history can be made a very valuable reference work as well as a respectful tribute to those who laid the foundation of medical work in this state.

Coming from the past to the present it is the purpose of this record to trace the inside growth of the practice of medicine in Illinois and to present a bird's eye view of the gradual assembling of propaganda both inimical and friendly to the future of the science of medicine and the prophylaxis of a perfect sanitary service.

With the second largest city of the United States and one of the ten largest cities in the world situated in Illinois, and boasting one of the lowest death rates, thanks to this present excellent sanitary service, detailed account of the fight for good medicine in Illinois will prove of rare interest, even to the municipalities without the gates.

Data can be sent to any member of the committee. Receipt will be acknowledged and material will be returned.

To make this history with the scores of inevitable details of interest to the profession, of value as a unit in the future annals of Illinois the work should list all officers of the society since its inception; epitomes of the accomplishments of each annual meeting; biographies of the founders; documentary memorabilia of early years; decadal reports of organization activities, complete proceedings of the first session of the organization;

financial status of the society; legislative activities including administration of the medical practice act, code of ethics, malpractice defense, police duties of society; licensing of physicians; medical colleges and their aims; allied institutions such as hospitals, dispensaries and nursing schools; sanitary service from state and community boards of health to general public welfare endeavors; records of county and city medical societies; comparative chronological tables; portraits of founders and of those splendid men who have carried the burdens of medical organizations and medical men for years without complaint; a reproduction of the historic charter—one of the oldest of the state—and what non-professional activities in the way of civic duty have been accomplished by busy and respected medical men of Illinois. Nor must be forgotten attempts at disruption of the society; its triumphant survival; the objectives for which it has striven since its founding, and best of all, the note of optimism that will make easier the way of the medical man in generations to come.

That this note of optimism must be literal advice to "gird up the loins and enter the fray" will make it none the less a note of courage. Once a man knows where his enemy lies in ambush, first defense, and later, victory are assured.

Let it be repeated that every doctor in the state of Illinois who wants this history to be an honest record of the patient years and the self-sacrificing men and women whose deeds made possible the wealth of Illinois, should try to send in at least some small thing to make complete the book.

NOTE: The following are topics on which the Illinois State Medical Society, Committee on Medical History, desires information from you:

1ST PERIOD—From Discovery of Illinois to First Ante-Bellum Days.

- (1) Early Medicine in Illinois.
 - a. Healing from the days of the aborigines and mound-builders to the early French and English explorers. Relics, citations, pictures.
- (2) Physicians and Pioneers.
 - a. Ante-boundary days; sporadic settlers, medical attendance for the covered wagon; herb doctors; primitive surgery.
 - b. Medicine and Missionaries.
- (3) The Commonwealth Develops.
 - a. Assertion of boundaries; pioneer doctors migrate to new territory.
- (4) Days of the Circuit Rider.
 - a. Saddlebag doctor, perils, triumphs, burdens.
- (5) Forts, Physicians and Settlements.
 - a. Government doctors.
 - b. Crystalization of settlements.
 - c. Fixation of physicians.
- (6) Medical History in Early Metropolises of Illinois.
 - (i. e., Galesburg, Lockport, Galena, East St. Louis, Belleville, Quincy, Peoria, Cairo et al.)

- (7) County Societies.
 - a. List and dates of founding.
 - b. Achievements and history.
 - (8) Sanitary Science and the Pioneer.
 - a. Early community restrictions.
 - b. First health laws in villages.
 - c. Early county laws of sanitation.
 - d. Territorial control of health.
 - (9) Institution of Medical Schools.
 - (10) Establishment of Hospitals, Asylums and Infirmaries.
 - (11) Organization Illinois State Medical Society.
 - (12) Creation of County Societies.
 - (13) Early Epidemics.
 - (14) Early Medical Practice; the doctor as a utility citizen.
- 2ND PERIOD (From the Late Fifties to the Fin De Siecle Period of the Late 90's).

- (1) Development of Medical Education.
 - a. Extension colleges.
 - b. Shift in commercial center of state to Chicago.
 - c. Increased hospitalization.
 - d. Humane care of insane.
- (2) Inception and Growth of Cultism.

From Voodoo to Abrams. Please enumerate any data of interest in regard to these continuous and varying charlatans.
- (3) Medical Legislation Enacted.
 - a. Medical Practice Act.
 - b. Health laws.

Establishment State Board of Health.
 - c. Malpractice defense.

Ad infinitum.
- (4) State Sanitary Service.
 - a. Drainage canal.
 - b. Milk and water supervision et al.
 - c. Food inspection.
 - d. Contagious disease control.
 - e. Veterinary sanitary control.
- (5) Women in Medicine.
- (6) Development of the Nursing Profession.
 - a. Early Religious and missionary service.
 - b. Nursing as a lay profession.
- (7) Change in Medical Practice.
 - a. Differentials from industrial progress.
 - b. Results of advanced reasearch.
 - c. Sequelae of progressive sanitation.
- (8) Progress of County Societies.
- (9) Medical Journalism in Illinois.
 - a. Official organ state society.
 - b. Other medical journals.
 - a—county.
 - b—city.
 - c—specialty.
 - d—general.
- (10) Financial.
- (11) The Council and Its Activities.

3RD PERIOD—The New Century: From 1900 to Date.

- (1) Shifting Therapeutics.
 - a. Serum medication.
 - b. Immunization.
 - c. Vanishing diseases.
 - d. Physical mediums from environment and diet to X-ray, radium, electro-therapy, etc.
- (2) More Medical Legislation.
 - a. General review.
 - b. Federal, State and Municipal dictation and competitive medical practice.
 - c. Lay control of medical practice.
- (3) Sectionalism in Medicine.
 - a. Absorption of homeopathy, eclecticism et al.
 - b. Development of specialists.
- (4) Outlook.

PRINCIPALLY PERSONAL

- (1) Society Founders.
- (2) Chronological List of Society Officers.
- (3) Orators and Lecturers for State Meetings.
- (4) Portraits and Biographies.
- (5) Documents.

- (6) Medical Colleges—both defunct and active.
- (7) Membership Statics.
- (8) War and Illinois Doctors.
 - a. The Revolutionary War.
 - b. The War of 1812.
 - c. The Mexican War.
 - d. War of the Rebellion.
 - e. The Indian Wars.
 - f. Spanish-American War.
 - g. World War.
- (9) Medical Men Away from Medicine.
 - a. In industry.
 - b. In science.
 - c. Belles-lettres, art, music, literature.

Cordially yours,

Medical History Committee,

ILLINOIS STATE MEDICAL SOCIETY.

O. B. Will, M. D., Peoria.

Charles B. Johnson, M. D., Champaign.

Carl E. Black, M. D., Jacksonville.

George A. Dicus, M. D., Streator.

James H. Hutton, M. D., Chicago.

Charles J. Whalen, M. D., Chicago.

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Chicago, Illinois.

SHEPPARD-TOWNER MATERNITY LEGISLATION, THE CHILDREN'S BUREAU—MME. KOLLONTAI AND THE USE OF WOMAN'S CLUBS FOR SPREADING BOLSHEVISTS' PROPAGANDA

Elsewhere in this issue is published from the "Dearborn Independent" an article showing that the woman's clubs in the country are being subsidized by a Russian propagandist.

This article is of special importance to physicians. Medicine being the line of least resistance is first in their attempt to be socialized. Once the practice of medicine is controlled by soviet government bugs and the home is made accessible to dream book artists, smelling committees, efficient medical service for the public is gone forever. The American public have a right to know who is Mme. Kollontai so highly praised by the United States Children's Bureau publication.

In the first place, Mme. Kollontai. Her first name is Alexandra. Congressman Layton, commenting recently, remarked that "The Sheppard-Towner Maternity Act may be traced to the Children's Bureau, created in 1913, chiefly through the propaganda of *Madame Kollontai, a Bolshevik, now enjoying the connubial bliss of an eighth husband.*"

Of the Kollontai portfolio the ultimate of the ethics and economics is abolition of the marriage bond; the advocacy of promiscuity as a relief from prostitution; the elimination of the badge of honor to children born in wedlock and the limitation of the population by birth control as a war prevention process; the feminists' plan of directly removing the legal discrimination of women by their refusal to bear children, save when, where and how they will; with ready relief for quick conception and libido, free and unconfined.

As portraying the numerous activities and doctrines

promulgated by Mme. Kollontai we quote *The Woman Patriot* as follows:

Alexandra Kollontai, head of Russia's Maternity System under the Czar; author of "the most comprehensive study of maternity benefits and insurance in any language," according to the United States Children's Bureau publication, "Maternity Benefit Systems in Certain Foreign Countries" (page 175); who is now Bolshevik Commissar of Public Welfare, will occupy a place in history second only to that of Judas when the uncensored historian of the future investigates the Russian Revolution. Hundreds of books have been published on Bolshevism. Practically all *dodge* Alexandra Kollontai. A recent book on Russia prints a full page picture of Kollontai—without a word about her except her name and office. Why? *Is it because Alexandra Kollontai's activities, if fully revealed to the world, would discredit Feminism everywhere and prove it a greater menace to both the family and the State than any other form of Socialism?*

The Kollontai material would fill a volume. She is undoubtedly "the most comprehensive" *revolutionist in the world*. Without her, Russia might have crushed Germany, in 1917. Under Order No. 7,433 of the German Imperial Bank, dated March 2, 1917, Kollontai "was authorized to draw money from all German banks in Sweden for the purpose of peace propaganda in Russia." (The German-Bolshevik Conspiracy, U. S. Public Document, No. 20, October, 1918, Documents No. 1 & 7.)

KOLLONTAI TWICE IN AMERICA

This same Kollontai made *two tours of America*, speaking to German groups, the first from November, 1915, to June, 1916; the second from December, 1916, to February, 1917. She ranged at large from New York to San Francisco, speaking in the great industrial centers, undisturbed by the Attorney General's office, and unnoticed save in the German press.

To cover her tracks, Kollontai was then posing as a protector of maternity and infancy, *which enabled her to gather vital statistics during war time that no other German spy could obtain*. In 1916, she produced a book on the subject, which the United States Children's Bureau called "*the most comprehensive study of maternity benefits and insurance in any language*." (Maternity Benefit Systems in Foreign Countries, p. 175.)

PROVED GERMAN AGENT

Kollontai returned to Russia early in 1917, a month before Lenin arrived, was placed on the German payroll, and "authorized to draw money from all German banks in Sweden for the purpose of peace propaganda in Russia" under Order No. 7,433, of the German Imperial Bank, dated March 2, 1917—just a week before the revolution burst with "the women's day." (German-Bolshevik Conspiracy, U. S. Document No. 20, October, 1918, Documents 1 & 7.)

On October 31, 1917, a week before the November Revolution, Kollontai was placed at the head of the Commissariat of Social Welfare, with charge of children's homes, mothers and infants, hospitals, nurses, social insurance, disabled veterans and ration-

ing of the families of the Red Army. (See Kollontai's article, front page, *Soviet Russia*, Aug. 16, 1919.)

A week later, November 6, Kerensky, the weakling, reviewed the Women's Battalion of Death (5 companies, 200 in all, "who had never yet fired a shot from their rifles") while the Bolsheviks quietly took over Petrograd. (N. Y. Times Current History, Dec., 1917, p. 423, and Feb., 1918, p. 302.)

A MURDERESS CANDIDATE FOR PRESIDENT

After the November revolution, the next campaign of the Bolshevik was to capture the Constituent Assembly, which met January 12-17, 1918. The first move the Bolsheviks made in the convention was the attempt to elect a woman murderess (Maria Spiridonova) President of Russia. The attempt failing, they seized power by force of arms, and elected a "Central Executive Committee" on which the German General Staff insisted that they place Kollontai. (Document No. 7, page 8, German-Bolshevik Conspiracy.) (See also Current History, Aug., 1918, p. 270.)

Kollontai is now with Schliapnikoff, former Commissar of Labor, now head of the Communist-Labor Party and the metal workers group—the anarcho-syndicalists or "Left Wing" of the Bolsheviks. Even Lenin and Trotzky are too "conservative" for Kollontai, whose book, "Communism and the Family"—the most ruthless attack on the family since Engels—is now being circulated wholesale in America by the most radical "Reds."

WOMEN AND THE RUSSIAN REVOLUTION

Let Mme. Kollontai herself speak:

"It was the working women who in Russia as well as in France *started the revolution*. The Russian revolution in March, 1917, *really started* with the 'woman's day' proclaimed for the 9th of March by the Socialist Party. The women demonstrated against the high cost of living and demanded bread. This day marked the beginning of the revolution. When the March revolution fully developed it was natural that the women should take part in it by the side of the men. Then Kerensky and Chauvinism came into power. But the women kept their heads cool. The *first great demonstration* or protest meeting against the *military offensive*, [observe that Russian armies were ready to *advance* in the spring of 1917] marked by a distinctly *internationalistic character* was held by working-class women on the 9th of June, under the leadership of the editorial staff of the organ of the working women's organizations. Shortly before, we had a mighty strike among the women workers in the big laundries. * * * It was the *first strike* after the March revolution."

The above statement is taken from *Soviet Russia*, official organ of the Russian Soviet Government Bureau, August 23, 1919, front page, being an interview with Mme. Kollontai by Arvid Hansen, Norwegian Socialist. The *same article*, with the first paragraph deleted, appeared three weeks later in *The Suffragist*,

official organ of the *National Woman's Party*, September 13, 1919.

Now let us have other testimony on the "mighty strike among women workers:"

"At Moscow the *Nicholas Orphan Asylum attendants* went on strike and closed the kitchens, forbidding anyone to prepare food for the children. At the *Elizabeth Hospital*, workers who care for the sick refused to return to their duties except upon transfer of executive power to the Soviet." (Ludovic Nandau, *Current History*, Feb., 1918, p. 295.)

Is it any wonder that Von Hertling, Imperial German Chancellor (Nov. 29, 1917), included in his "peace terms" for the to-be conquered countries the adoption of "compulsory health insurance" including a maternity system? Compulsory health insurance and maternity benefits were first adopted by Germany in 1883, the demands of Socialists for State support of women and children corresponding with Bismark's design to create a supervised and standardized nation from the cradle to the firing line.

NATIONALIZATION OF WOMEN

Shortly after Von Hertling's speech, the Socialist British Labor Party came out also for sex equality, nationalization, health insurance, maternity benefits, etc., on January 3, 1918. (*Current History*, Feb., 1918, p. 204.)

A few months later, April, 1918—but let Kollontai tell it:

"In April, 1918, a woman's conference was held, representing the city and the province of Moscow, which was widely attended. The Congress in Petrograd adopted important resolutions regarding maternity and unemployment insurance. At the Moscow Congress, the food question, the cost of living, and *children's welfare* were the great burning questions." (Soviet Russia, August 23, 1919.)

Thus it appears that Kollontai arranged such a conference (although Russia had maternity benefits, medical care, funeral benefits, etc., under the Czar), only a few months before the United States Children's Bureau called together a conference of foreign and domestic theorists (including a few "nuts" as Senator Kenyon admits), on "Child Welfare Standards" which provide for enough employees "*to see that every infant is referred to an infant-welfare center.*" (Standards of Child Welfare, issued by Children's Bureau, p. 436.)

How was it possible for Germany to wreck Russia with the help of women and the head of Russia's Maternity System? Let us hear *Colonel Raymond Robins*, the first American who ever agreed to co-operate with Trotsky and Lenin:

"I paid particular attention to the radical situation, because I did not have any too much time, and spent it where *most useful*. The German method in handling the radical situation was to find usually *some woman*—it happened in so many cases that it seemed that that was the general rule, *to use a woman*. * * * Then this person would call a meeting of a circle of revolutionists in her home between midnight and 4

o'clock in the morning * * * and this woman, after some impassioned appeal, * * * would break into tears and would say, 'What can I do for poor Russia?' She could not do anything but give money to the revolutionists; and so she gave money. They felt that this was a converted Russian who was now turning toward revolutionary propaganda, but they were really using German money. That was the method by which they ran the show." (Bolshevik Propaganda, U. S. Document, p. 792.)

When Mr. Robins was asked by Senator Nelson if there was a kinship and resemblance between the I. W. W. and the Bolshevik doctrines, Mr. Robins replied:

"In some of the doctrines, yes, sir; undoubtedly so. But Senator, if we meet by a real intelligent reconstruction policy these left-over spots, and take from the workman's table the spectre that I as a workman knew, the fear of unemployment, accident and sickness, which can be protected by intelligent systems of pensions and insurance, and safeguard old age and premature death—if these three fears are banished from the workingman's table—we will have laborers and their families implicated in the security and permanence of the Government, because the Government is backing him at these points."

MATERNITY AID SOUNDS WELL

Paternalism, health insurance, etc., Government maternity aid, *sound well*, but let us hear the testimony of *Kollontai* herself as to their real *objectives*:

"In the family such as we have become accustomed to it, it is the husband who earns, and supports wife and children. * * * What was it that made the family strong in the days of old? In the *first place*, the fact that it was the husband and *father who supported the family*; in the second place, that the home was a thing equally necessary to all the members of the family. and in the third place, that the children were *brought up by the parents*. * * *

"The individual household has passed its zenith. It is being replaced more and more by collective housekeeping. The working woman will sooner or later need to take care of her own dwelling no longer; in the Communist society of tomorrow this work will be carried on by a special category of working women who will do nothing else. * * *

BRINGING UP CHILDREN IS THE AFFAIR OF THE STATE

Here also the state of the working comrades will come to the rescue of the family by *substituting* for the family; society will gradually take charge of *all that formerly was on parents*. * * * As the domestic labors of the family die out one by one, *all obligations* of support and training will be filled by society in *place of the parents*. * * * The child will be fed, it will be brought up, it will be educated by the cares of the *Communist Fatherland*. * * *

"The old type of family has seen its day. * * * The family is ceasing to be a necessity to the State, as it was in the past; on the contrary, it is *worse*

than useless, since it needlessly holds back the female workers from a mere productive and far more serious work. * * * The woman in the Communist city no longer depends on her husband but on her work. * * * Marriage is henceforth to be transferred into a sublime union of two souls in love with each other * * * This free union * * * instead of the conjugal slavery of the past—that is what the Communist Society of tomorrow offers to both men and women.

"There will be no more room for such petty divisions as were formerly understood: 'These are my own children; to them I owe all my maternal solicitude, all my affection; those are your children, my neighbor's children; I am not concerned with them. I have enough to do with my own.' Henceforth the worker-mother, who is conscious of her social function, will rise to the point where she no longer differentiates between *yours* and *mine*; she must remember that there are henceforth only *our* children, those of the Communist State, the common possession of all the workers.

A NEW RELATION BETWEEN THE SEXES

"The workers' State has need of a new form of relation between the sexes. The narrow and exclusive affection of the mother for her own children must expand until it embraces all the children of the great proletarian family. In place of the indissoluble marriage based on the servitude of woman, we shall see rise the free union. * * * In place of the individual and egotistic family, there will arise a great universal family of workers, in which all workers, men and women, will be, above all, brothers and comrades. * * * This new relation will assure to humanity the joys of the so-called free love enabled by a true social equality of the mates, joys which were unknown to the commercial society of the capitalist regime.

"Henceforth, divorce may be amicably obtained within a period of a week or two at most." (The Family and the Communist State, By Alexandra Kollontai, in Soviet Russia, official Bolshevik organ, December 13, 1919.)

This is the Bolshevik-Feminist who is called the author of the "most comprehensive" maternity system in the Children's Bureau booklet, "Maternity Benefit Systems in Certain Foreign Countries." The article from which the quotations are made is very long, and contains many other equally extreme doctrines. Another series of articles by Kollontai in Soviet Russia, August and September, 1921, contains the following, among certain other sentiments that are unfit to print in a decent paper:

IDLE WIFE ON FOOTING WITH THE PROSTITUTE

"All women who desert from labor, who take no part in the obligatory work, and who are not performing any work for small children at home, are placed on an equal footing with the prostitute—they must be forced to work. And we cannot make any distinction here between the prostitute and the most

lawful wife who lives on her husband's sustenance, whoever her husband may be, even though he be a 'commissar.' In other words, we are going to introduce equal treatment for all deserters from labor. From the standpoint of the workers' collective, a woman is to be condemned, not for selling her body, but for the fact that, just like a legally married idle woman, she does no useful work for the collective. This new, absolutely new, procedure with prostitution is dictated by the interest of the workers collective."

FREE LOVE AND COMMUNISM

Kollontai's objectives are free love and communism, but her arguments, that when the State substitutes for the father the family is doomed, are unanswerable. "Maternity systems" whether they involve the blanket term, "care of maternity and infancy in the several States" by a Children's Bureau, providing that such "care" as it may require "shall be available for all residents of the State" as in the Sheppard-Towner Bill; or whether they involve the conscious, revolutionary, communist plots of a Madame Kollontai, all are based on the fatal principle of State substitution for the father and challenge the future existence of the family.

The primal function of the family is to guarantee mother and child the support of recognized husband and father.

STATE TO TAKE OVER FUNCTION OF THE PARENTS

The Kollontai doctrine, that the State should take over all the functions of the father but the biological, would reduce men to the social level of tomcats and would wipe out for women and children all that distinguishes the human family from the animal herd.

The best "public protection of maternity and infancy" is the solemn vow of an honest man at the marriage altar. The only substitute (State care of mothers and children) involves, whether its advocates know it or not, the most revolting of all Socialist doctrines.

CHILDREN STARVING IN RUSSIA

Socialism's first victory in legislation was the adoption of compulsory health insurance and maternity benefits in Germany in 1883. It was not until 1911 that Socialists succeeded in getting any other country to adopt them. They wrecked Russia's army. They established Bolshevism. They starved Russian orphans with a hospital strike in 1917. Children are still starving there today.

Describing starving Russia S. B. Conger, in a dispatch from Riga to the Philadelphia Public Ledger, August 7, 1921, wrote:

"One of the greatest features is the abandonment of children by their parents, who are without food themselves and who have been accustomed under the bolshevist regime to see the responsibility for children taken over by the government." More than 300,000 children in the Province of Samara alone have been thus abandoned.

SOCIAL WELFARE, MOTHERHOOD ARE CAMOUFLAGE

That such phrases mean less than nothing as used by Communists, is demonstrated by the fact that it was with a "*Bureau of Social Welfare*," and a so-called "*Palace of Motherhood*" and a program that she called "*a Heaven on Earth*," that Alexandra Kollontai brought about what Sir Paul Dukes, the greatest outside authority on Russia says, that the central tragedy of Russia today is the result of Bolshevik corruption of children under Madam Kollontai's "welfare" and "maternity" system.

Sir Paul Dukes adds: "It has always been a bolshevist principle to fight the institution of the family. *Mme. Kollontai's writings can leave no doubt on that score, even in the minds of the skeptical. The idea is to remove children at an early age from parental care and bring them up in colonies.*" (N. Y. Times, July 17, 1921.)

NATIONALIZATION OF CHILDREN

Prof. Boris Sokoloff, a leading Russian Socialist, and one of the members of the first All Russian Constituent Assembly that the Bolsheviks broke up by force, January 18, 1918, wrote in *Volia Russii*, (Will of Russia) February 16, 1921:

"I am prepared to forgive the Bolsheviks many things almost everything; but one thing there is which I can not and will not forgive them, namely, those experiments, *positively criminal and worthy of the most savage tribes of the African jungle*, which the Bolsheviks have been making all this time with our young generation, with our children! This crime knows no parallel in the history of the world. *They have destroyed morally as well as physically a whole Russian generation.*"

Professor Sokoloff, in the same article, quoted the following statement by *Mme. Lelina*, (Commissar of Social Welfare in the Northern Commune, Petrograd, and wife of *Zinoviev*, president of the Third International) in the official journal of the Soviet Commissariat of Public Education, No. 4:

"*We must nationalize the children. We must remove the children from the pernicious influence of the family. We must register the children; or—let us speak plainly—we must nationalize them. Thus they will from the very start remain under the beneficial influence of communist kindergartens and schools. Here they will grow up to be real communists. To compel the mother to surrender her child to us, to the Soviet State, that is the practical task before us.*"

Madame Kollontai herself, who, it must be remembered, was indorsed by the United States Children's Bureau booklet, (No. 57, p. 175) as the author of "*the most comprehensive study of maternity benefits and insurance in any language*," writes in her pamphlet, "Communism and the Family" which the Workers' Party (successor to the Communist Party of America) is distributing wholesale in America now:

"Henceforth the worker-mother, who is conscious

of her social function, will rise to a point where she *no longer differentiates between yours and mine*; she must remember that there are henceforth only *our children, those of the Communist State, the common possession of all workers*. . . . In place of the individual and egotistic family, there will arise the great universal family of workers, in which all the workers, men and women, will be, above all, workers, comrades. Such will be the relation between men and women in the Communist society of tomorrow. This new relation will assure to humanity all the joys of the so-called *free love*. . . . joys which were unknown to the commercial society of the capitalist regime. . . . The red flag of the social revolution which will *shelter*, after Russia, *other countries of the world* also, already proclaims to us the approach of the *heaven on earth* to which humanity has been aspiring for centuries."

WOMEN AND CHILDREN WARDS OF COMMUNISM

The Overman Committee of the Senate, after investigating Bolshevik Propaganda thoroughly at great length, declared in its report:

"The apparent purpose of the Bolshevik government is to make the Russian citizen, and *especially the women and children, the wards and dependents of that government*. Not satisfied with the degree of dependency incurred by the economic and industrial control assumed by its functionaries, it has destroyed the natural ambition and *made impossible of accomplishment the moral obligation of the father to provide, care for, and adequately protect the child of his blood and the mother of that child* against the misfortunes of orphanhood and widowhood. To accomplish this, it has by decree expressly *abolished and prohibited all right of inheritance*, either by law or will. Upon death all of the decedent's estate is confiscated by the State. . . . They have promulgated decrees relating to marriage and divorce which practically establishes a *state of free love*. Their effect has been to furnish a vehicle for the legalization of prostitution by permitting the annulment of the marriage bonds at the whim of the parties. (Senate Document No. 61, 66th Cong., 1st Session, pp. 36-37.)

Kollontai, in her "Communism and the Family," said:

"What was it that made the family strong in the days of old? In the first place, the fact that it was *the husband and father who supported the family*; in the second place, that the home was a thing equally necessary to all members of the family; and in the third and last place, that the *children were brought up by the parents*. . . . Under the capitalist regime, the children were frequently, too frequently, a heavy and unbearable burden to the proletarian family. Here also the Communist society will come to the aid of the parents. *In Soviet Russia*, owing to the care of the *Commissariats of Public Education and of Social Welfare*, . . . there are homes for very small babies, day nurseries, kindergartens, children's colonies and homes, infirmaries, health resorts, res-

taurants, free lunches . . . does all this not sufficiently show that the child is passing out of the confines of the family and being placed from the shoulders of the parents on those of collectivity? . . . A subsistence ration and solicitous care are assured to the child and to the mother by the Communist Society, by the Workers' State, as soon as the child arrives in the world. The child will be fed, it will be educated by the *care of the Communist Fatherland* . . . The family is ceasing to be a necessity of the State, as it was in the past; on the contrary, it is *worse than useless, since it needlessly holds back the female worker from a more productive and far more serious work* . . . No more inequality within the family! No more domestic servitude for women! The woman in the Communist city no longer depends on her husband but on her work. It is not her husband but her robust arms which will support her. There will be no more anxiety as to the fate of her children. The State of the Workers' will assume responsibility for these!"

OUR LOCAL TAXES

Recently published figures about our county and municipal taxes, when reduced to figures that mean something to average people, show that we are paying for the operation of county and municipal government an average of over 25 cents a day for every man, woman and child in the state. If state and federal government taxes are added, the figure is more than doubled, and if income and inheritance taxes are added—but what's the use?—the first figures are enough.

We are not going into a discussion about taxes further than to state that they are important in the causes of unhappiness and of sickness. We also want to state that not enough of tax money is expended for legitimate better health service, and too much is wasted in health luxuries and the promotion of health fads.—Indiana Medical Journal.

PHILOSOPHIZING ABOUT UPLIFTERS

"There have always been in the world persons who think they are their brothers' keepers, who would like to be, and who strive to be," says Joseph Collins (The Bookman). "There have always been others who are convinced they know more about matters that are unknowable—such as destiny and how to prepare it—than their fellows of equal original endowment and of greater opportunity for enlightenment; and they deem it their mission to make us, by exhortation or legislation, conform to their beliefs. They parade their honesty, praise their sincerity, preach their purity and pretend their efforts are for the public welfare.

"One of their beliefs is that they know good and bad, proper and improper, salutary and pernicious literature, and they are constantly striving for legislation that will force their judgment upon the public. The most naive reason they give for their activity and ardency is that they want to protect their children. To make the state share the parent's re-

sponsibilities may lessen the burdens of parenthood, but it is unlikely that it will improve the child's chances."

Indiana Medical Journal.

WHAT WILL BE THE END RESULT WHEN WE "EDUCATE EVERYONE IN MEDICINE?"

Some of the editors of our metropolitan newspapers and magazines are beginning to wonder where we are going in our industrious attempt to "educate the public in medicine." Editorially the San Francisco Call recently had this to say:

"It's very easy to get the idea nowadays that you are not normal.

"If you read a book on insanity you will begin to doubt your own sanity. You remember that, back in your childhood, you didn't like to step on a crack for fear it would break your mother's back, and that you used to count everything in sets of three, or couldn't go by a telegraph pole without touching it. Sure signs of abnormality, of course, that could easily be aggravated into insanity. And that's where you are wrong, since a certain amount of insanity seems to be normal.

"A garrulous doctor or a medical case book, meant for the profession, can also introduce doubt into your mind. Reliable doctors know about that and are very careful about suggesting symptoms of disease to their patients. We seem to insist on being sick, regardless of the doctor's efforts to make us well. If the doctor tells a certain type of patient the symptoms of a disease, the patient will do his best to comply with the medical specifications.

"A little reading in the apparently new science of psychoanalysis disturbs many people. They learn that repressions and little fears in childhood may disturb one for a whole lifetime, so they become bundles of walking worries, of 'neuroses,' 'complexes' and such things. And this little knowledge makes them fancy themselves abnormal—poor, extraordinary folk adrift on a miserable sea of normality."

A HYGIENIC ANECDOTE

After eating a hearty meal at one of these scientifically planned restaurants, MacIntyre paid the cashier and strolled down the street. A pair of scales on the sidewalk attracted his attention. He stepped on them and dropped a penny in the slot.

"The dirty crooks!" he exclaimed, and dashed back to the restaurant.

"Look here!" he bawled at the manager. "You've cheated me. I'm short twenty-seven calories."

The manager gazed at him coldly.

"We can do nothing for you," he observed. "You should have noted that sign."

MacIntyre looked at the wall and read:

"Count your calories before leaving the restaurant."—American Legion Weekly.

Correspondence

APPRECIATION FROM THE RETIRING SECRETARY—SOME OF THE BEST MEN IN THE WORLD ARE PRACTICING MEDICINE

Silvis, Ill., May 18, 1924.

To the Editor:

This letter is the last thing I do as a Secretary—ever, in my whole life, I think. We are packed; everything but the typewriter is strapped and bolted, and a truck calls in the morning. But before clearing the desk and getting out my own typewriter, I want to say, thank you.

This job has been a wonderful experience, well worth the time of any man whose makeup contains any of the spirit of brotherly love and fellowship. The associations entailed are incomparable. You and I feel that some of the best men in the world are practicing medicine—as a matter of fact, quite a number of people will agree to that much; we feel too that the Illinois Medical Society need not apologize before any organization in this country, for either its earnestness of purpose or ability of service. That being the case, there is no doubt in my mind that I have, for a time, been permitted to serve with some of the ablest good men in the world. There is a lot of joy in that thought to be stored for future use. I say "thank you" because I should not have had the pleasure if you had not insisted. You shoved me seven or eight years ago for some reason that has never been quite clear to me and then when I tried to start work again after the war, you did it again. The extra work has done me good, but if I kept it up too long my own job would slump beyond repair and, not being fitted by temperament to be a secretary, I'd be entirely out of a job. It was not lack of appreciation which made me howl for a change.

Let me know if you have any little odd jobs at times that I could help out on. I can usually make time for a little bit more and that is different from a steady occupation. For the next year, though, a lot of hours are going into my own job.

Sincerely,

WM. D. CHAPMAN.

DOCTORS WANTED FOR THE ILLINOIS NATIONAL GUARD

There are now five vacancies in the Medical Corps of the Illinois National Guard, 33rd Division. The shortages are in Chicago units, The Medical Regiment and two Line Organizations. Ex-service officers will be given preference for these commissions. It should be recalled that officers and men of federalized units draw pay throughout the year.

Anyone interested can communicate with me at the following address:

5 South Wabash Ave., Suite 2010. Telephone Randolph 0606.

Or call any Thursday evening, 3rd floor, 115 East Ontario St., Headquarters Medical Regiment.

Yours very truly,

HARRY D. ORR.

Colonel Medical Corps, Division Surgeon, 33rd Division.

FAMOUS LAST WORDS

"I wonder if it's loaded. I'll just look down the barrel and see."

"Oh, listen! That's the train whistle. Step on the accelerator and we'll try to get across before it comes."

"They say these things can't possibly explode, no matter how much you throw them around."

"I guess this rope will hold my weight."

"It's no fun swimming around in here. Let's go out beyond the life lines."

"These traffic cops can't stop me."

"What a funny noise that snake makes. I think I'll step on him."

"Which one of these is the third rail, anyway?"

"That firecracker must have gone out. I'll light it again."

"What's wrong with you? You can't see the scenery unless you lean out."

"It smells like gas, but I guess it's all right. Lend me a match."

"I took some medicine in the dark, and I must have got hold of the wrong kind."

"I'm going up on the roof to cool off."

"I'm not afraid to walk on the track."

"Let's change places, and I'll paddle."

—James Waldo Fawcett.

Teacher was endeavoring to make clear to the youngsters the grammatical tenses.

"My father had money," she pointed out, "is in the past tense. Now, Grace, what tense would you employ if you should say, 'My father has money'?"

"That would be pretense," said Grace very soberly.—Science.

Original Articles

THE CURES THAT HAVE FAILED*

JAMES J. WALSH, M.D., PH.D., SC.D.

NEW YORK CITY

The main duty of the physician is to restore patients to health, that is, as most people say, to cure his patients. It is almost impossible to formulate a definition of health that would satisfy all those most concerned with it but we have a general idea of what we mean by it. After all there is no definition for insanity and yet mankind understands enough about it to intern most of the people who need to be interned. We have a practical definition, perhaps it might be called pragmatic, that guides us in what we do.

To cure is to restore people to health but the meaning of the word cure has been changed in the course of the last generation. *Cura* in Latin meant originally to care for and that is what we physicians propose to do for patients. But cure has come to mean bringing about recovery from disease. This the physician cannot always manage. We can help nature to bring about the reintegration of function and sometimes of tissue but there is in human nature a definite tendency to degeneration and we begin to die from the moment of our birth on and "life is a dangerous thing at best," as an Irish friend of mine says, "and very few of us get out of it alive," so the doctor cannot be expected to make people as good as new. The little girl whose baby brother made a great deal of noise and trouble suggested that he be brought back for exchange because he was not proving satisfactory but unfortunately we cannot do that and all that we can do is to make the best of the material we have in hand.

Osler liked to quote old Dr. Parry of Bath in that well known expression of his, "It is much more important to know what sort of patient has a disease than what sort of disease the patient has." Most people would think that medical science has advanced far beyond this and I know that some of the younger men in medicine who know it all would be quite sure that this is a dreadfully old-fogeyish and reactionary formula, but then Osler did not think so and he was

at the moment the greatest teacher of medicine in the English speaking world and very probably the greatest teacher of medicine anywhere in the world. After all we all recognize very well that when we are called in to see a patient suffering from a disease, let us say pneumonia, it is much more important as a rule if the man is at all on in years, that is beyond middle life, for us to know what he takes into the pneumonia with him than what sort of pneumonia or how much pneumonia he has. If he had scarlet fever when he was younger and developed glomerular nephritis as a result and now bears in his kidneys the results of that in the shape of a Bright's disease we will not be able to do very much with him in his pneumonia. If he has a crippled heart, the result of rheumatism when he was younger, or a typhoid fever in adult life, he will probably die on the sixth or seventh day from exhaustion.

I think I have been able to trace the original of that expression about the patient rather than the disease back at least to Galen and probably to Hippocrates. These old fellows knew a thing or two about the observation of patients and Osler used to say that he thought that every physician ought to read some Hippocrates every year so as to learn how to observe his patients. It must not be forgotten however that these men thought they knew much about therapeutics, that is about the cure of disease. We find their cures rather amusing now. But then a great French physician said not long ago that the therapeutics of any generation is always absurd to the second succeeding generation and we are much faster now so that it takes only a generation to make our therapeutics absurd. How many cures are there for disease that you and I have seen come in and then go out and be laid gently away in that capacious lumber room where the cures that have failed are stored. We have a large garret for that purpose and we call it the history of medicine and there are a lot of bats in that belfry that it would be well to take out sometimes and look at and remind ourselves that generations before us have cured disease and then found that the remedies they used were no good so far as any physical effect was concerned and yet they had done very much for the patients. It was Galen, I believe, who said that we should recall our position as regards patients and the limita-

*Oration in Medicine delivered before the Illinois State Medical Society at Springfield, Thursday, May 8, 1924.

tions of our power to do good for them. We can unfortunately only seldom cure. We can nearly always relieve and we can always console.

What is most important however is that we should not make ourselves absurd to more than the reasonable degree of course that is inevitable in humanity because of the curious incongruities of a being that has a mind that can reason and an animal body. Therefore it is well for us to review occasionally the story of the cures that our great colleagues of the past have had and that have since fallen into innocuous desuetude. It is because of these that Oliver Wendell Holmes' expression which some physicians resent but everyone ought to understand,—that is of course if he has a sense of humor, deserves to be recalled from time to time: "If all the drugs that have been administered by physicians to their patients and by patients to themselves apart from their physicians were thrown into the sea, it would be better for mankind and worse for the fishes."

We have always had, that is the physicians of any given time, remedies that we were sure would cure. Then after a while they cure no more. While they are in the vogue they seem to many physicians to be almost wonder working in their potency. When the fad for them is passed everyone can see that they are perfectly useless. What Dr. Trousseau, at the moment very probably the greatest physician in the world, certainly the one most looked up to, said to his young colleague, is worth recalling. The young man who had been a student of Trousseau's came to ask him, "They tell me I have consumption. Do you think I ought to take that new remedy that is curing so many consumptive patients?" And Trousseau replied, in words that ought to be in the note-book of every physician, "Oh yes, and take it now while it cures because after a while it will be found not to cure and then it will do you no good."

The oldest document we have in the history of medicine is the Ebers' papyrus. The date of it is somewhere about 1800 B. C., probably a little bit nearer to us than that because Egyptian dates have been coming closer. This contains, to quote Dr. Klein who discussed the "Medical Features of the Ebers Papyrus" in the *JOURNAL* twenty years ago, mention of over seven hundred different substances supposed to be remedial in value. There is scarcely a disease of any im-

portant organ with which we are familiar in the modern time that is not mentioned here. The papyrus insists very much on the value of history taking in medicine and hints that the reason why physicians fail to cure is often because they have not studied their cases sufficiently. Of course the spleen, the ductless glands and the appendix were out of their ken, but nearly every other pathological condition was either expressly named or at least hinted at. Lest you should think that my own partiality for what is old influences my judgment in the matter let me quote Dr. Klein:

In this papyrus are mentioned over 700 different substances from the animal, vegetable and mineral kingdoms which act as stimulants, sedatives, motor excitants, motor depressants, narcotics, hypnotics, analgesics, anodynes, antispasmodics, mydriatics, myotics, expectorants, tonics, dentifrices, sialogogues, antisyphilitics, refrigerants, emetics, antiemetics, carminatives, cathartics, purgatives, astringents, cholagogues, anthelmintics, restoratives, hematics, alteratives, antipyretics, antiphlogistics, antiperiodics, diuretics, dilutents, diaphoretics, sudorifics, anhydrotics, emmenagogues, oxytocics, caustics, ecbolics, galactagogues, irritants, escharotics, caustics, styptics, hemostatics, emollients, demulcents, protectives, antizymotics, disinfectants, deodorants, parasiticides, antidotes and antagonists. Medicines are directed to be administered internally in the form of decoctions, infusions, injections, pills, tablets, troches, capsules, powders, potions and inhalations; and externally as lotions, ointments, plasters, etc. They are to be eaten, drunk, masticated or swallowed, to be taken often, once only—often for many days—and the time is occasionally designated—to be taken mornings, evenings or at bedtime. Formulas to disguise bad tasting medicaments are also given.

We have no advantage over the early Egyptians even in elegant prescribing.

Galen is the representative Greek physician and there is no doubt at all about his really profound knowledge of medicine. Of course his therapeutics is very amusing but it is not nearly so amusing as that of John Hall Shakespeare's son-in-law who married Susanna Shakespeare and whose house in which he practised medicine 1,500 years after Galen is still to be seen in Stratford. John Hall was ever so much more positive that his remedies did good but Galen had perhaps a greater variety. Galen's favorite prescription, and you know every doctor has always had his favorite prescription and used it so often that after a while you can tell pretty much what he will give almost any patient, was a combination of pepper, saffron, poppy juice, carrot seed, aniseed, parsley seed and Massillian hartwort. The

opium was to be dissolved in odorous wine, mixed with the other ingredients, pounded dry, ground and sifted and then pressed into pastilles of half a dram each to be dried in the shade, not the sun. Galen used this for disagreeable belchings, gastric distress, gas in the stomach, bloating and nearly every other gastro-intestinal symptom. For pains in the head it was taken as a drink with wine or applied externally diluted with vinegar. Diluted with sweet wine and made lukewarm it might be used as a gargle in tonsillitis. Being a Greek Galen used no such barbarous term hybrid of Greek and Latin as tonsillitis. He called it amygdalitis. Dissolved in old wine the remedy was good for recent coughs. Dissolved in new wine it was good for old coughs. Dissolved in myrtle wine it might be used for every kind of hemorrhage. Dissolved in horehound juice it was good for phthisis. Dissolved in the juice of the bloodwort, sanguinaria, it was good for hemoptysis, but also for bloody dysentery and cholera. Taken in liquor of rue it was infallible for snakebite. Diluted with the liquor of mugwort (*artemisia*) it acted as an emmenagogue. Dissolved in honey wine it was good for bladder trouble. Diluted with liquor of bitterwort it was good for arthritis and gout. That would nearly fill the bill.

The Romans had no formal study of medicine for in spite of the fact that they were so practical a people they were not interested in the development of science. As a result the history of medicine at Rome is the finest chapter of quackery on record except of course our own time. Pliny the elder complains that the doctors bought their remedies instead of exercising their proper profession of making them and adds that they scarcely knew the ingredients and if they desired to make out written prescriptions they would be cheated by the salesmen. Galen also groans at the frauds of these cursed dealers and says they too were victims of the collectors of herbs who brought sap from the flowers and fruits and spirits into the town. Apparently they had all the trouble that we have as regards the manufacturing pharmacists with remedies on the market and then some. At Rome they had a great many popular remedies, proprietary remedies we would call them which worked wonders. They were sold with testimonials that they had cured members of the imperial household and much

was said of "safe cures" and "sure cures" and people were assured that they at least could not be harmed by them and of course they might be benefited. They had all sorts of curious remedies especially far fetched materials, eastern drugs, the triturated eyes of the bat for people who could not see well, ground vermin for those suffering from itchy diseases whether it might be eczema on the one hand or senile pruritus on the other for the principle *similia similibus curantur* was already in vogue and people were quite sure that they might be benefited in their itchiness by what caused itching under other circumstances. Many nations besides the Romans used these and the Chinese seem to have been particularly taken with the notion.

We are very much inclined to think that these dear old fellows of ancient times and of course the poor medieval people were so credulous that they could be easily fooled into believing that almost anything would be good for them. But of course that would not be true in more modern times. Just where modern medical history should begin in history is hard to know but I suppose a good place would be with Harvey. He discovered the circulation of the blood and it was then easy to understand how medicines were carried through the body and worked whatever of good they had in them. It might be expected that that would be the end of quackery or at least of much of the pretense of the older period. Personally I am inclined to think that this gave a new impetus to all sorts of curious cures and as for credulousness that continued to be the characteristic of people as much as ever.

In the generation after Harvey when Cromwell was ruling England and refused to exercise the prerogative of touching people and healing them which kings had claimed for centuries, a sympathetic healer over in Ireland named Greatrakes pronounced that he had dreamt that the Holy Spirit sent him to touch the people and heal them. He touched them all right. When the king exercised his touch the patients were given a gold sovereign specially coined for that purpose. We may see some of them still in the British Museum. When Greatrakes touched the people however the sovereign passed in the other direction. He cured people by the dozen and then by the hundred and then by the thousand. He had to begin at six in the morning, take only

a short time off at noon and work on until eight at night. The English got jealous of the Irish having the benefit of this and they sent for Great-rakes and he cured more of the English and he cured the nobility and when the nobility gets cured everybody else is ready to get cured. He cured the graduates of the Universities and attracted a great deal of attention and made so much money that he got into trouble and this hurt his prestige and so we hear no more of Greatrakes.

Such a thing would seem to be impossible in our day, with all our popular education and the newspapers to guide and guard us and the scientific temper of the learning of our people. And yet scarcely more than twenty years ago Alexander Dowie, having announced that he was Elijah returned to earth, commissioned to cure the people, cured them by the thousands. He himself assured an audience in New York once that he had cured 200,000 people. Many thousands went to live with him at Zion City confiding to him all the money they had made. Zion City was founded half way between Chicago and Milwaukee. In the East we wondered about the location of the New Jerusalem but we concluded the reason was the same that inspired Dean Swift when he left the residue of his estate for a mad house in Dublin because he said no nation needed it so much. Some were surprised that people who had made money should believe in Dowie, but Mark Twain reminded us some years ago that dollars and sense, that is common sense, do not necessarily go together, though dollars and copper cents do. After the Dowie incident it would seem as though we would be rendered immune to any such further manifestation, but Francis Schlatter, a cobbler out in Denver, announced that he was commissioned to heal people. He came down from the mount of the Holy Cross and proclaimed that he had fasted for forty days and people crowded to be touched and healed by him. He would not take fees but you could leave whatever you thought the cure was worth on the table. Think of taking people's diseases at their own valuation and being paid for them at that rate. No wonder Schlatter made lots of money. Who was it that said the easiest way in the world to make money would be to buy people at the valuation set on them by other people and to sell them at the valuation put on them by them-

selves. I think that Schlatter believed in himself. That is why he made so many cures. The group around him thought he was not making money fast enough so they organized a course in correspondence healing. For \$10 they sent by mail handkerchiefs blest by the prophet containing some of his emanations I suppose. The United States postal authorities declared that to be a fraud and so Schlatter's prestige was hurt but he continued to cure on to the end of his life and many people at that and he is dead scarcely two years.

Our generation is just as gullible when there is a question of cure as any generation ever was. Professor John Dewey of Columbia said not long ago that the best criterion of education he knew was that it keeps people from being duped. That is by the way a French expression that was brought over to America by Matthew Arnold so that now it bears the approval of three great modern nations and their educators. John Dewey added that if that is the criterion of education our education is not only bad but is getting worse every day for this is the age of bunk and hokum. It is easier to fool people now than it ever was before. That is why we have over 100 healing religions in this country. All sorts of curious cults, freaks and fakes and fakers and deluded people who go round with delusions of grandeur and declare that they can accomplish wonderful things and who actually cure supposedly educated people and make good money out of it. There are men who make \$25,000 a year and more preaching healing religions of various kinds in the large hotels of this country. Not long ago one of them was preaching "the religion of the solar plexus" whatever that may be, in New York and getting away with it. No wonder that an English visitor said that we had the most variegated menagerie of cults anywhere to be found.

But it is not only religion that causes superstition and arouses credulity with regard to healing. A superstition is anything that stands over people—that is the etymology of the word—and keeps them from thinking or reasoning. We have had lots of scientific superstitions. Every new advance in electricity has been applied to medicine with a great blare of trumpets and the announcement that here was a wonderful source of healing and everyone of them proved a dis-

appointment. The Leyden jar was carried around Europe curing pains and aches and disabilities of all kinds, above all head ache and stomach ache and women's aches and the troubles of the menopause, and of course there is nothing curative in a Leyden jar. Its spark represents a little shock and nothing more. It is great to read the accounts of the wonderful cures that were worked in this way. But not greater than the electrical cures we have now.

Every bit of progress in electricity was the signal for another application to medicine with wonderful results. Patients said they were cured and surely they knew and they must have been cured by something and the new phase of electricity was being used on them, therefore that must have been the curative agent. It is all so easy when you reason it out. After Franklin discovered that electricity and lightning were the same thing there could be no end to the hopes raised of the therapeutic possibilities of electricity. And then when Galvani showed that electricity and nerve force had some wonderful relation to each other which might be identical, a new fillip was given to interest in electrotherapeutics. There was no end of cures. The little electrical machines made out of glass cylinders something like bottles, gave series of sparks and many people were cured of long standing ills which the doctors had been unable to relieve in any way and which these poor people had been prone to think were going to cripple them for all time.

Then came the recognition that magnetism and electricity bore some very close relation to each other and magnets were used with marvelously curative results. A great astronomer in Vienna cured his assistant, a very valuable workman, who for a long time had been crippled by lumbago. Now lumbago is a very concrete disease and it causes pain and crippling and whenever anything causes pain and crippling it is not an imaginary disease. Since the magnets cured the patient they must have some wonderful therapeutic action. It was thought that they drew the *materies morbi* out of the system. We have always been drawing the *materies morbi* out of the system. Poultices used to do it. A different poultice for each different *materies morbi*. You remember the list, linseed, mustard, bread and milk, soap and sugar, cranberry, and the like.

My father kept a country general store and used to buy a barrel of cranberries every fall, not that they were used much for table sauce, but they had a wonderful reputation for curing erysipelas and, erysipelas was very common then so people came from ten miles around to get cranberries in the winter time so as to make poultices. Erysipelas was red and the cranberry poultice was red so of course it would cure it. *Similia similibus curantur*, and then was not the signature or redness on both the disease and the cranberry? Could anything be clearer than that they were intended by nature to influence one another? The doctrine of signatures was in vogue and all the world accepted it to some extent at least. Was not that the reason why people liable to suffer from red and swollen and inflamed joints, rheumatic conditions, wore red flannel underwear? I shall never forget how my old grandmother used to insist that red flannel was ever so much more protective in the winter time against cold than any other color flannel and the lines all round our house in the little town used to blossom out every Monday morning in red underwear. Very different from the pink which flourishes now, but representing an interesting contrast with the white goods that formed a background for it.

When they got through using magnets Mesmer who had been the witness of the wonderful cures made by magnets up at Vienna started animal magnetism down in Paris but began it with a wonderful battery that was supposed to be *magneto electric*. Up in Vienna they had made the magnets of the shape of the various organs that they were expected to affect. Heart shaped magnets for the heart, liver shaped magnets for the liver, kidney shaped magnets for the kidney. Are not the leaves of kidneywort and liverwort shaped like the organ that they were meant to cure? But magnets were dying out and needed a new impetus so Mesmer's battery put that in. He had a series of bottles in a big tub with iron filings in the bottles and wires projecting from out the iron filings above the top of the bottle. It would remind you of some of the wonderful so-called electrical appliances of our day that have not an ion of electricity in them. Mesmer cured people by the thousands so much so that the French government offered to pay him what was an immense sum of money in those days if he would only sell his secret and let them use it for the benefit of

the people. But Mesmer refused. He knew a good thing when he had it. He offered however to sell to a group of colleagues at a less price provided only they would agree to give him half of all they made on this new method of treatment. A great many of them were willing and came in under it. The late Dr. Abrams was not the first to appreciate how revenue of this kind might make a very precious addition to a physician's income. Then the government asked Franklin, our own Ben, Lavoisier, the father of chemistry, and Bailly the physicist, to investigate Mesmer's battery and they declared there was not the least electricity of any kind in it. They further declared that Mesmer was producing his effects merely through patients' minds. The people who sat around the tub or battery waiting for Mesmer to come into the room used to go into little trances of various kinds and when Mesmer entered and touched them with his hand, dressed as he was in Oriental garb, there were various hysterical manifestations.

After this report the French government refused to let Mesmer go on with his work and there came near being a revolution in Paris. Everyone demanded why should a good work of this kind that was curing thousands of people every year not be permitted to go on. But the government was obdurate, this was before the revolution, and Mesmer retired to one of the Channel Islands and lived there for the rest of his life having made fortune enough for that purpose. Animal magnetism came in through some of his disciples who recognized that the trances and curious psychic condition meant much and it was out of this that hypnotism developed. We had a great phase of animal magnetism here in America and wandering magnetisers made a great deal of money and one of the subjects of magnetisation, Andrew Jackson Davis of Poughkeepsie, met Galen and Swedenborg in a graveyard once, a fateful occasion, and they told him how to cure disease and he cured so many people and especially some of the legislators and members of their families, that he was invited down to Washington to make an address before the United States Senate—the Senate has always been a very interesting body—and we came within an ace of having Andrew Jackson Davis the Seer of Poughkeepsie whom Dr. Arthur Conan Doyle said we should be very

proud of because he was the first to ever see the soul leave the body, foisted on us as a sort of healer in extraordinary to the country by decree of the Senate for the Senators were thoroughly convinced of his power and his greatness. Andrew Jackson Davis' books were the best sellers in that time and sold when books did not sell so much as now up to some forty editions. I have some of them at home. I picked them up for five cents each; they are the veriest twaddle, but Andrew Jackson Davis cured a lot of people.

In the midst of the interest in electricity and while Galvani and Volta were disputing as to whether electricity was nerve force or not, an American came on the scene with a wonderful new invention and therapeutic discovery. His name was Perkins, Elisha Perkins, not exactly the name to fill the speaking trump of future fame but still not a bad name. The Perkins are a very distinguished family. He came from Norwich, Connecticut, which is sometimes said to have been the original home of the wooden nutmeg, but Elisha Perkins was a serious minded man. He was a graduate of Yale Medical, so was his father before him. Elisha was famous for his unstinted devotion to his profession. It was nothing for him to ride sixty miles to see a patient, of course on horseback. At the end of such a trip he would feel somewhat tired and he would ask his patient to let him lie down and he would fall asleep at once but not until he had warned the bystanders to wake him in exactly five minutes. If they let him sleep six he was not nearly so reinvigorated and often felt quite depressed. He was evidently a very suggestible individual. He made two pieces of metal about the thickness of lead pencils, some five or six inches long tapering to a blunt point, and putting the large ends together he stroked the patients with the other ends. This was the sort of thing Galvani did when, touching the exposed nerve and muscle of a frog, he made the frog legs twist and won for himself the scoffing name of "frogs' dancing master" but made some important discoveries with regard to electricity. Perkins cured all the lumbago and sciatica in his neighborhood and people began to come from all over New England. The doctors said there was nothing in his tractors but Elisha said that that was because he was curing the patients whom the doctors depended on for their regular income. So they

expelled Elisha from the Medical Society but he went on with his work.

Perkins thought that the tractors would prevent as well as cure disease so when they had an epidemic of smallpox in Philadelphia he went there to save the good Philadelphians but caught the disease himself and that was the end of Perkins but not of his tractors. The wife of the Minister of Denmark had been cured by them after home doctors and English and American doctors had failed. She took the tractors home with her to Denmark. In Denmark they cured members of the Storting or legislature—this is only one of the many many things by which members of legislatures all over the world have been cured—and after them some members of the nobility and then a member of the royal family and then they could not get enough tractors. The Danes fell as hard for Perkins at the beginning of the nineteenth century as for poor Dr. Cook at the beginning of the twentieth. Perkins' son took them to England and they cured members of the nobility, the Duke and Duchess of Buccleuch and after that the lid was off and everybody was cured with them. As many doctors in England fell for them as are falling for Abrams' "Magic Box" in our time and there was just as little in either of the therapeutic modes. Perkins' son says that he thought that 1,200,000 people had been cured by the tractors in England. Then came their inventor's death and the discovery of two pieces of wood colored like metal would make cures as well as the tractors. After that the use of them declined. We still have them in our museums. They are pieces of absolutely inert metal. There is nothing in them of any kind. Yet they cured hundreds of thousands of people of serious diseases which the doctors often had failed to cure. That is one of the most striking criteria for the meaning of cures in the history of humanity that I know. Electricity was in the air, people expected wonders from it, they thought they were getting them and that was all that was needed.

This does not demonstrate the influence of the mind over the body in the cure of disease but it demonstrates the influence of the mind over the body in the production of disease. All these people who were cured, were suffering from ills produced by their mind. That was why they got cured through their minds. They were suffering

from dreads of the worst instead of hopes for the best; they were concentrating their attention on their sensations and multiplying them to the extent of torture as it seemed to them, they were over solicitous about various organs and were interfering with their function and just as soon as their minds were prevented from hampering their bodies they began to get better and soon were well.

It did not make a bit of difference what the mode of treatment was provided it reached their minds effectively. It might be mummy or skull moss, it might be any mode of electricity but pseudo-electricity worked just as well and indeed seems to have been more powerful therapeutically because you could make greater claims for it. *Omne ignotum pro magnifico*, the old Latin historian said, "whatever is unknown appeals to us as being of great significance," and mysterious nothings just work wonders on mankind.

Whatever happens to be the passing fad of the moment or the special topic of scientific interest will have a particular appeal. Psychology has taken on renewed interest in our day so patients get cured by all kinds of psychology. In order to be effective it must be labelled new or modern psychology or something that makes people understand that this is not any old-fashioned thing because most of the psychoneurotics feel that their condition is so puzzling that nothing but some marvelous novelty in therapeutics could possibly be expected to relieve them. Hypnotism worked wonders for pains and aches and disabilities, for lumbago and sciatica and chronic rheumatism as well as for headaches and pseudo-angina and for many of the ills that feminine flesh is particularly heir to. Now we know that hypnotism is only induced hysteria and that hysteria itself is only super-suggestibility—that is having a disposition to take suggestions over rapidly. We cured the idiopathic hysterias by means of the induced hysterias of hypnotism, on the same principle that the old country doctor told his son he was treating the hysterical old maid. He was giving her hyoscyamus and he thought that might throw her into fits and he said, "You know I'm hell on fits."

When we recall these wonderful curative agents of the past which after a while were found to be no good at all, it is easy to understand the vogue that a great many remedial measures of one

kind or another secure in our time. After all sometimes even physicians who see the cures that are made by certain of these modes of treatment, begin to feel that there must be something in them. Many physicians became converts to Perkinism and his tractors. This was particularly true in England. I had a letter from a medical friend, a serious conservative physician in England the other day, asking me to find out for him something about Abrams' magic box, because he felt sure that there must be something more in it than the medical authorities generally said there was, because how otherwise could you account for the cures. "Cures" are the worst evidence in the world for there being anything in a remedy. The important thing is the diagnosis of what was the matter with the patients before they were cured. Legislators argue that they know people who have been cured by osteopathy or chiropractic and sometimes they themselves have been cured. They feel there must be something in them. Just as with regard to Mesmer the French government was willing to pay a good price for his 'cure' so legislatures have been willing to offer special inducements to medical discoverers to give up their secrets. Mesmer refused to sell but St. John Long sold the British government the secret of his wonderful turpentine liniment, and as soon as the secret was known the remedy worked no more cures; for a time it was thought that St. John Long might have "held out" on the government and kept his secret back. A few years ago a shoemaker in New York was curing locomotor ataxia by magic shoes at \$500 per pair. The patients went on the witness stand to defend him and swore he was curing them. Not long before a man "cured," that is, made so many ataxics feel better by treating a real or supposed ulcer in their posterior urethra by sounds, that he was given a chance to read a paper on this subject before the New York Academy of Medicine on the invitation of one of the best neurologists in the country.

And that brings us to the fact which I think constitutes the reason why your committee invited me to deliver this oration on medicine. I fear it lacks all the solemn qualities that an oration ought to have. For my first ten years in practice I was a medical editor and I had to listen to orations in medicine by the bushel and I can tell you they were pretty solemn affairs. I

would not say they were dreary though some of my friends among the reporters declared them so. Of course they were keynote addresses and just now we all know what keynote addresses are and how likely they are to be full of commonplaces. I am not impugning my predecessors in this oratorical privilege but only making excuses for my own poor effort. I am sorry to say that I shall be quite satisfied, however, if you go away from here declaring that this was the funniest oration on medicine you ever heard. I think that humor is the best touchstone of truth that we have. You know it is a good definition of man to say that he is a risible animal. He is the only animal that laughs. It requires reason to laugh and above all it requires reason to laugh at yourself. Whenever you take yourself too seriously, look out. Sixty per cent. of all the inmates of our insane asylums have delusions of grandeur. Conceit is the highroad to the asylum. When you can laugh quietly at yourself you are sane.

Now let us laugh a little quietly at ourselves just to demonstrate that we are sane. The most interesting thing about these cures is the fact that a great many doctors fell for them. In England a great many physicians took up Perkins' tractors and worked wonders of healing with them. We have had Mesmeric and magnetic healers among physicians and after all hypnotism is along this line, and if you will go back thirty years and recall what some of the men who were said to be leaders in their specialty were doing with hypnotism you will realize better than I can tell you how physicians may be taken in. After having gone through the hypnotism fad it seems to me that I can understand the vogue of psychoanalysis at the present time, for in both cases the cures are made by suggestion after producing a primary striking effect upon the mind. In both cases the lay users of it succeeded in accomplishing just as much if not more than the professionals.

Whenever we are inclined to think that while the physicians of the older time were credulous enough to accept curious remedies that we have since found out to be of no use, let us not forget that our generation is just as easily caught. A great French professor of medicine declared that the therapeutics of any generation is always absurd to the next succeeding generation but we are inclined to think that our scientific progress saves

us from this. We pity the poor people of the past but we forget that when our generation is over we shall be only one of those very pitiable past generations who knew so little and were so easily deceived. We do not think of our time as a generation at all. We think of ourselves as the Day of Judgment, but we must not forget that we shall have our turn.

It does not take a generation in our time for us to find out that wonderful cures may prove entirely negative in therapeutics. As I came into medicine Koch's tuberculin had just been announced. For a while it looked as though a really great triumph in therapeutics had been made. Now after more than thirty years we are not quite sure of the place that Koch's tuberculin ought to hold but we know that the first announcement and the enthusiasm which developed was entirely a mistake. We were affecting people's minds, not their bodies. How many a cure for tuberculosis we have had since! Some of them modifications of Koch's, some of them drugs, some of them even surgical operations. Fresh air and good food remain in our day as Galen said when he was an old man, it was in his, the best remedies that we have. It is easier to understand after reviewing that phase of medicine how true is Hippocrates aphorism "Art is long and judgment difficult," though "Time is short." As had been said even before his time, knowledge comes but wisdom lingers. After Koch's fiasco we had diphtheria serum and then a whole host of serums. More than a score of them only one of which is absolutely any good though one or two more are good prophylactics or perhaps adjuvants in treatment. Probably more than twenty after having been welcomed for a time as curative proved quite useless. And then came opotherapy, the use of tissues to cure tissues, and then the vaccines, and now we have the glands. Does anyone think for a moment that the present tendency of many physicians to use pluriglandular treatment for all sorts of vague subjective symptoms is doing any more good than did Perkins' tractors or hypnotism or the various modes of electricity or the serums or the vaccines were accomplishing for some physicians a generation or more ago?

The fact of the matter is there are an immense number of people who have something physical the matter with them, but who are exaggerating

that out of all reason and giving themselves all sorts of symptoms as a consequence. They will get cured of these mentally produced symptoms, the psychoneuroses, by anything, absolutely anything, that will reach their minds and change their habit of thought with regard to themselves. M. Coué cures a great many of them by simply telling them to tell themselves, "every day in every way I am getting better and better." He very candidly insists that he does not cure them but teaches them how to cure themselves. The dear little druggist of Nancy knows nothing about medicine and still less about psychology—that's why he mixes up the will and imagination—so he lumps all his cases together and makes no diagnosis of them. He cures sixty per cent. of them, benefits thirty per cent. and only ten per cent. are not benefited, and thousands come to him every year. Fortunately few patients who have anything serious the matter with them as a rule go to these curious healers. But that fact instead of making the case better for physicians seems to me, at least, to make it worse. We are permitting a lot of patients who have not very much the matter with them to swell the clientele of the quacks and charlatans, the irregular practitioners of many kinds, when if we only realized the actual nature of their affection we could probably cure them. These people are suffering from psychoneuroses. They can only be cured by suggestion. That does not mean talking to them or trying to persuade them that they are not ill, still less trying to convince them that they are suffering only from imaginary disease. Their diseases for the word etymologically only means discomfort, are as real as they can be. They are in their minds but also in their bodies because their minds affect their bodies but they can only be cured by producing a change in patients' minds.

The irregulars find it rather easy to make this change. As a rule they have thoroughgoing confidence in the remedial measures that they employ and their confidence is contagious, their patients share it and it is not long before their psychoneuroses disappear and then their patients proclaim themselves better. When we have remedies that we believe in, we do the same thing and get the same results. Twenty-five years ago we were curing a great many cancers with x-rays. Internal cancers particularly were greatly bene-

fited. You must remember the experience, many of you. I need scarcely tell you that the x-rays did not reduce the mortality from cancer but they made our patients feel ever so much better for a while because they shared our confidence in the remedy and this enabled them to throw off their psychoneurotic symptoms and their feelings improved at once. That was the sort of thing that hypnotism did in its time. That is what glands are doing at the present time.

Until we physicians get to understand what is meant by the psychoneuroses how common they are, and how many symptoms they can produce, we shall continue to have the cures that fail and the quacks and charlatans of all kinds who make a fine living and "cure" a great many people. We may make up our minds that we shall not be able to control these abuses through legislation. Prohibition does not work well on human nature as it is constituted. It has been said that education is needed in order to lessen the resort of patients to quacks and charlatans but much more than popular education, the education of physicians is needed. They must understand their cases better. Above all they must understand their patients better. To quote wise old Dr. Parry of Bath, again. "It is much more important to know what sort of patient has a disease than what sort of disease a patient has."

To understand our patients is above all to understand their minds and the way they act and their tendency to exaggerate the significance of symptoms. To concentrate the mind on a pain, above all on a slight discomfort, almost inevitably results in the multiplication of the condition. This happens partly through the law of avalanche in the nervous system, because so many more cells become exclusively occupied with the discomfort and then to increase the sensitivity because the amount of blood sent to a part is increased by concentration of attention on it. Under these circumstances what are scarcely more than physiological sensations may easily become distress and then after a time seem actually to be torment. Diversion of mind must be secured and in many people that will cure the worst symptoms that they are complaining of. To secure this diversion of mind is a problem. Whenever it occurs the patients get cured. Excrement pills have cured constipation because it was argued that they had been through

the intestines once and they should go through again. Ground lice have cured the pruritis which is often so intractable in the old or in the prematurely senile and which seems to need some very definite physical treatment. Magnets have cured pains and aches and disabilities simply because people were creating these within themselves. Magnets had no more therapeutic activity than Perkins' tractors or hypnotism or Hahnemann's millionth dilutions even when they were shaken vigorously. The history of medicine contains a series of very precious lessons for the modern physician if some of these incidents of the past will only serve as warnings against present day fads in therapeutics and enable us to understand just why it is that the quack and the charlatan succeed so well with a great many patients. Without knowing it they are applying the remedy of favorable suggestion but why should not the regular physician do the same thing, only do it consciously and be taught how to do it properly? He will not cure cancer nor pneumonia nor typhoid fever nor any other tissue disease but he will cure the psychoneuroses, that is the hysterics and they can masquerade as almost any affection in the category of disease.

THE TREATMENT OF COMPOUND FRACTURES OF LONG BONES*

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In these modern days when so many advances are being made in scientific medicine and surgery it seems almost necessary to apologize for the presentation of a paper on so ancient and commonplace a subject as the treatment of compound fractures. The fact remains, however, that anyone who sees and studies the end results of a large series of these cases from a standpoint of function, finds much to be desired. The further fact, that a multitude of methods are advocated by as many surgeons and teachers, shows that the last word has not been written on this subject. The problem is worth considering because it has been shown that the victims of such accidents are always very severely disabled, and are prevented for many months and often years from returning to any form of occupation, and when returned may be efficient only to a very small per-

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centage of their previous ability. This results yearly in a very large industrial and economic loss. It is the duty of the surgeon to assist in every possible way the very worthy efforts that are being put forward by industrial concerns and other agencies to lessen the period of disability in these and similar accidents, and to increase the ultimate efficiency of the individual so afflicted.

In an attempt to arrive at a reason why fractures in general, and severe compound fractures in particular, are so badly handled by the bulk of practitioners one is faced with several possibilities.

1. The usual text-book teaching of care of fractures is necessarily handled briefly, and often the methods advocated are open to criticism. The student is not able to separate the salient facts and the general principles of treatment are lost on him; hence he needs a closer clinical contact with actual cases.

2. The teaching of fracture treatment is difficult, as most of these are emergency cases and the actual handling of such takes place when the students are not in attendance. They see patients only in splints or more or less fixed permanent dressings. This can be remedied by a compulsory interne service for all students, or by post-graduate work.

3. The treatment of fractures requires a high degree of mechanical ability not possessed by all practitioners. Industrial concerns are not slow to recognize this fact, and a great many are employing specially trained men to look after all of their industrial accidents. The Compensation Boards of states or provinces are also interested in getting men back to duty in as short a period as possible and with as little loss of function as possible, and they are advocating special training for surgeons undertaking such treatment. The final advance would be the appointment of a specially qualified surgeon, devoting his entire time to the duty, to act as a traveling consultant for a certain district to see all serious accident cases and advise as to their care.

For the purpose of this paper the compound fractures are best divided into two classes:

1. Those compounded from within; the wound usually is small and made by a spicule of bone which has penetrated the skin.

2. Those compounded from without, the wound being made by some crushing or penetrating force which is carried to the bone.

In the first class, after the bones are fractured, the force continuing causes the bone end to protrude through the soft structures and penetrate the skin. In most of the cases the act of straightening the limb causes the bone to recede. In only a small percentage of cases does the bone impale the clothing and carry bits of foreign matter into the wound. In the great majority of these cases no sepsis occurs if properly treated by the surgeon who first sees the case, and it may, therefore, be treated as a simple fracture. The responsibility for the outcome in this type rests almost entirely with the surgeon who does the first dressing. More than ninety per cent of these cases seen in the emergency and outpatients' departments get well without sepsis.

After removal of clothing the wound should be covered by a small pad of sterile gauze just sufficiently large to cover the wound, and held tightly in place. The skin surface may be cleansed with gasoline from the wound outward to a distance of twelve to fourteen inches, and the limb dry shaved outward from the wound to the same extent. After the gasoline has dried tincture of iodine may be painted on to cover the above area. In children it is always well to rub off iodine subsequently with alcohol to prevent blistering. This area is then covered with sterile towels, the wound itself is cleansed with gasoline, and iodine applied. With a dry dressing and no drainage most of these cases heal kindly by first intention and may be splinted and treated as simple fractures.

In civilian cases where the patient can be brought directly to hospital or surgeon, the application of first aid dressing to the wound by policemen or others is not to be advocated on account of the danger of sepsis.

In the second group of cases the fractures are the result of crushing injuries by heavy machinery or railway accidents, and those comparatively rare civilian cases due to gun shot injuries. In these the destruction of soft tissues is more or less severe, and in some the injury to the vascular structures is so great as to demand immediate amputation. Where the vessels of the limb have escaped most cases are amenable to treatment and secondary amputations for severe sepsis are very rarely necessary.

There are not a few surgeons, who, anxious that the lessons of the war should not be forgotten, advocate very strongly the war methods of

dealing with these severe injuries—forgetting that most of the conditions which have to be accepted in war work do not or should not exist in civilian injuries. The injuries in the early years of the war resulted in severe sepsis in practically all cases, and even in the later stages only about three per cent or less escaped. The first aid dressing was of no avail in preventing sepsis, as the application of iodine on the surface and the application of a sterile dressing could not be expected to be of any value, when it is remembered that the infective material was carried by the ragged missile into the soft tissues of the extremity with the dirty clothing. Many of these cases lay out in "No Man's Land" or were sent down the line, and frequently twenty-four to seventy-two hours elapsed before adequate surgical aid was available. The common infection in all of these cases was the gas bacillus (*bacillus aerogenes capsulatus*), and the loss of time made the prognosis exceedingly grave. Tetanus infection was also a common complication in the early stages. The gas bacillus and tetanus infections were undoubtedly due to the fact that all clothing was saturated with the soil of these heavily manured regions. The immediate injection of antitetanic serum by the ambulance medical officer, the sending of surgical teams to the dressing station for early surgical attention, and the improved splinting of these unfortunate cases certainly were large factors in reducing mortality and in saving many limbs and lives. The surgical measures adopted by these advanced teams were radical and effective. They consisted of extensive debridement, removing all non-viable soft tissue, leaving a great open cavity for irrigation and adequate drainage.

It is quite obvious that most of the conditions which existed in the war and which were responsible for the great calamities of war surgery do not and cannot exist in civilian injuries, and consequently much of the necessary surgery of the war would not only be unnecessary in civilian practice, but in many cases would be reprehensible. The industrial injuries happen for the most part to workmen whose skin is clean, the clothing if soiled is not loaded with infective material, and rarely is the clothing carried in and buried in the soft tissues. Except in those injuries in farming communities due to farm machinery we find gas bacillus infection very rarely. In all cases surgical attention is

available within an hour or two of the injury, so that the advocates of war methods must largely modify their methods or much harm may result.

In all injuries of this class occurring in railway accidents, in building operations, and even possibly in all cases, a preventive inoculation with antitetanic serum is advisable. In the treatment of the civilian cases in a general way one would say that the first duty is to combat shock. Rest is secured by the administration of a hypodermic injection of morphine. Heat is applied externally by means of hot water bags and blankets. Stimulants in the form of hot coffee may be given, and fluids supplied by interstitial salines and the Murphy drip with glucose.

As soon as safe an anesthetic should be administered, and the limb carefully examined. The protection of the wound by sterile gauze and the thorough cleansing and shaving of the skin should be done as noted in the first class of cases. The wound should then be dealt with, first the clipping away of all tags of skin, then the removal of all fascia and muscle tissue which is ragged and obviously damaged so extensively that its recovery is unlikely. The muscle tissue which has lost its color and does not bleed or contract on section likely will never be viable, and should be removed. All gross dirt and foreign matter of any sort should be carefully removed. Loose or comminuted fragments of bone should not be removed unless they are practically extruded from the wound and completely separated from all source of blood supply. The extensive removal of these loose fragments is a very frequent source of ultimate non-union. Even fragments which have a doubtful blood supply should be left, as some may recover and the others may easily be removed subsequently if they are found non-viable.

No attempt at primary suture should be made, but the wound left wide open for adequate drainage. Drains of rubber tubes as in the Carrel Dakin technique may be inserted, or rubber protective and loose gauze may be used and the whole wound irrigated with Dakin's solution every three hours in the daytime, with longer intervals to insure rest at night. If properly splinted with splints of the Thomas pattern to secure good alignment, extension and support, the wound and the patient should do well. After two weeks of adequate drainage and irrigation, secondary suture may be possible in a fair number of cases.

The after treatment of these cases requires unremitting care to see that drainage is free, irrigation is efficient, and extension is always adequate.

Drainage. Wherever possible wounds should be enlarged to take advantage of gravity drainage. Where this is impossible pockets of discharge should be prevented by constant irrigation or the use of the Taylor suction tank drainage. The use of Bipp—bismuth, iodoform, and petrolatum or paraffin—as advocated by Sir Rutherford Morrison may be of definite value if properly applied. In the writer's opinion its greatest value is due to the paraffin oil or petrolatum. When it is smeared into a wound thoroughly, leaving only a thin coating on the exposed tissues, it thereby prevents adhesion of the surfaces for a period of forty-eight hours or more, and makes a very efficient form of drainage by preventing the retention of secretions and toxins in the deeper tissues. The gross application of Bipp as so often used to fill the whole cavity defeats the very object for which it was devised, and no wound will heal until this is all removed or discharged.

Splints. Adequate splinting of a compound fracture at the very earliest moment after injury is an essential feature of treatment. It tends to lessen shock, prevents further injury to soft structures, tends to limit the extension of sepsis and brings comfort and freedom from pain to the patient. In the war it was one of the great factors in lessening the dreadful mortality rate and in improving the chances for ultimate reasonable function. The objects aimed at in successful splinting are:

1. To secure in as great a degree as possible proper alignment of the fractured bones.
2. To recover as nearly as possible the original length of the limb. This is especially necessary in the case of the lower extremity.
3. To immobilize more or less completely the joints above and below the fracture.
4. To afford easy access to the wounds for dressing and irrigation without losing any of the features noted above. The only method of holding a fractured limb which permits of these aims being carried out effectively, is that of extension, and any splint which may be advocated must depend on the principle of extension for its efficiency.

The great lesson of the war so far as fractures are concerned was that which showed the marvelous utility of the Thomas splint in meeting all

of the demands as noted above. That the lesson was well learned is amply demonstrated by the fact that in fracture clinics the world over the Thomas splint with many modifications is the chief reliance of the surgeons of such clinics. To Sir Robert Jones is due the real credit for the introduction of this splint, thus supplanting the many antiquated and inefficient splints previously used.

For transport, in fractures of the lower extremity, the usual type of Thomas splint provides the possibility of adequate extension, giving alignment and approximate length, with fixation of joints, support of the soft tissues, and easy accessibility for dressing. In hospital the additional suspension from a Balkan frame and extension from the end of the splint will complete the comfort of the patient and facilitate the nursing. In the upper extremity the swivel ring modification permits of the arm being placed at the side, and makes transportation easier. In hospital it is desirable that some modification of this splint be made because of the danger to the joint function and the possibility, in severe septic conditions in the neighborhood of the elbow, of ankylosis of the elbow joint. In splinting which must be more or less prolonged, where there is danger of ankylosis, the principle should always be kept in mind that the limb should be placed in the most useful functional position should ankylosis occur. Further, at as early a period as possible function should be stimulated by permitting active, or at least passive, movements of the joints of the extremity. Needlessly prolonged splinting is still a most fruitful source of loss of function.

My colleague, Dr. George Wilson, has developed a modification of the Thomas splint for use especially in the upper arm, which has proven very efficient in our clinic. The extension is obtained by incorporating the upper end of the wire splint into a plaster of paris band about the chest, thus doing away with the ring pressure in the axilla which is always a source of discomfort and danger if long maintained.

Non-Union. That sepsis is not a large factor in the production of non-union has been amply demonstrated in the large series of war fractures. The chief causes of non-union are, first, gaps due to loss of substance of bones, from early removal of many of the comminuted fragments, or second, lack of apposition from interposition of muscle or

fascial structures. The comminution of bone rather tends to increase the amount of callus thrown out, and increases the probability of union. The removal of these fragments makes gaps between the ends, and non-union is likely to occur. In septic conditions the inflammatory reaction increases the bone growth and with reasonable approximation union will always occur. Very few of the fragments found even in severely crushed bones are so completely separated from all soft structures as to endanger their blood supply, and most of these can be brought fairly well into line by splinting and some replacement at the time of primary cleaning up. Bone lacking approximation in septic conditions, without union, may be brought into line usually by splinting with extension, removal of the intervening tissue, and fixation by heavy kangaroo tendon inserted through a drill hole in the fragments far enough from the ends to hold securely. The extension and support with the Thomas splint usually will be effective in holding the position by the time the sutures are absorbed.

The fixation of fragments in septic fractures by steel plates or bands, so freely advocated by some surgeons, has been shown to be harmful and for the most part to destroy the prospect of early healing. Even when plates are put on as a temporary measure to act as internal splints, with the expectation of their removal at an early date, they usually defeat the object sought. The series of drill holes for insertion of screws opens up the interior of the bones to infection, and when the plates are removed it is found that a necrotic area the size of the affixed plate usually results. There may be a mass of callus all about the plate, sometimes burying it, but the necrotic area will sequestrate and union necessarily must be delayed or in some cases, as shown by Mr. Hey Groves, the whole thickness of bone becomes necrotic, and its sequestration leads to a gap between the bone ends. The fixation is not greater than that secured by absorbable material, as fascia or kangaroo tendon, as the screws rapidly loosen and pull out, and dependence must be placed on the splinting for continued fixation.

The non-union which may have resulted from failure to remove fibrous tissue separating the bone ends undoubtedly is best treated by an autogenous bone graft. The time at which this bone graft should be done has been a debated question,

but experience has shown that approximately a year should elapse after all sinuses have healed before grafting should be attempted. Even after this period foci of infection have been uncovered. When the infection is gross enough to be certain the operation should be delayed, for while in certain cases bone grafts remain and union is accomplished, in more cases the graft is extruded and the operation fails. In non-union due to gaps in the case of single bones, as the humerus or the femur, the bone ends should be approximated and the graft inserted, even if a considerable degree of shortening results. In bridging gaps in one of the bones of the forearm or leg it is never good judgment to shorten the remaining solid bone to permit approximation of the ends of the other. These gaps may be bridged by an autogenous graft even when the distance is four inches or more. The success of such graft depends largely on the close approximation of the graft to the bone into which it is planted. We have found that the diamond shaped graft fitted into a long straight cut, in the case of small bones like the ulna or radius, is most efficient. By springing the edges of the straight cut the wedge graft can be so tightly placed as to hold without other fixation. In large bones like the tibia the V cut is made slightly narrower than the diamond graft and the latter is driven firmly into place. A period of perfect splinting with plaster of paris or other efficient material should be maintained for three months at least before union may be looked for. Failures are usually due to sepsis, poor approximation or imperfect splinting.

After perfect healing and solid union of these fractures has taken place the function of the limb may be very imperfect. The muscles controlling the joints above or below the fracture may be tremendously tied up with scar tissue or the muscle may be in part destroyed or removed. The movements of the neighboring joints thereby are very much restricted. A prolonged course of hydrotherapy and massage should be employed to hasten the recovery of function and put the patient back into his place as a wage earner. Neglect to follow up cases after union is secured, to see that adequate after treatment is carried out, is responsible in large measure for the long periods of disability from which these patients suffer.

WOMEN'S CLUBS "USED" BY BOLSHE-
VISTS—INTERLOCKING DIRECTOR-
ISTS USED EFFECTIVELY TO
DISSEMINATE PROPAGANDA.*

"WE MUST GET INTO ALL SORTS OF CLUBS,
WOMEN'S CLUBS, FARMERS' CLUBS, GRANGES,
WELFARE ASSOCIATIONS; WE MUST GET
INTO RELIGIOUS ORGANIZATIONS, WHEN-
EVER AND WHEREVER POSSIBLE—CHAU-
TAUQUAS, SCHOOLS — EVERYTHING,
AND WE MUST SEND OUR PROPAGANDA EVERYWHERE."

COMMENT—BY THE EDITOR

From the *Dearborn Independent*

The following article from the March 15th, 1924, issue of *The Dearborn Independent* is highly illuminating and should be carefully read and digested by every right thinking American.

During the last few years the ILLINOIS MEDICAL JOURNAL has repeatedly called attention to the dangerous bunch of meddlers mentioned in the following article. During our expose of the dangers of enactment of Legislation similar to the Sheppard-Towner Bill we call attention to the teachings and character of Madam Kolontai, head of the department of child welfare in Russia, whose unAmerican teachings and doctrines were so highly praised by the Children's Bureau in Washington when propagandizing for the Sheppard-Towner legislation.

Grave danger threatens the progress of organized womanhood in the world today. Leadership of women's organizations has fallen into the hands of radicals to an alarming extent. There is a conspicuous turning away from public work on the part of many able women who have formerly been active. Radical leadership may cost all that sane, progressive women have achieved through the centuries. It is inevitable that if a choice is compelled between the extreme feminist program under its present radical leadership and anti-feminist programs, the anti-feminists will win, since this is obviously the lesser of two evils.

One reason for many of our best women refusing to be candidates for office in women's organizations is that the advent of suffrage makes every organized unit a potential political factor.

To understand this it is necessary to examine the radical program for the control of leadership. Tracing the personnel through the network of interlocking directorates which control women's organizations, national and international, we see how the radical works.

It is never the policy of the leaders to permit the rank and file of the members to know what the ultimate objective is. Women are drawn in through all sorts of camouflage interests—their dislike of war, their sympathies for prisoners, most of all by the frothy eloquence which depicts a woman's crusade against all evil, while at the same time their leaders are using the rawest form of political bludgeoning on politicians in the capitals, and are often in communication with the fountains of "red propaganda" in this and other countries. Of course, the good women who make up the rank and file are not supposed to know this.

USED FOR RED PURPOSES?

On August 1, 1922, the Central Executive of the Communist International (Communist leaders who rule Soviet Russia) issued a signed proclamation "To the Central Committee of all Communist Parties," through the Communist "International Press Correspondence" service, in part, as follows:

"It is self-evident that the Proletarian United Front is not complete unless women are conscious and active co-militants It is the duty of the Communist parties of all countries to make full use of the existing possibilities to convert women into conscious militants See to it that the necessary measures be taken for carrying on Communist propaganda among the broad masses of women that steps be taken for the awakening and mobilization of the working women to take their places consciously and confidently in the United Proletarian Front This applies not merely to political work but more particularly in the trade unions and co-operatives. The Proletarian women constitute deep and potent sources of vigorous fighting power and fighting energy To unlock these sources will be the duty and honor of the Communist parties of all countries and will serve as another guaranty for the success of the United Proletarian Front in the struggle against the bourgeoisie."

This order from Moscow illustrates the true objective of the Communists regarding work in women's organizations. Some intelligent women are now convinced that the legislative program being sponsored by women's organizations is a menace and that the women of America are being used for a purpose that is concealed from them.

The National Council of Women which held its biennial convention in November, 1923, at Decatur, Illinois, is the clearing house for national organizations. The constituent organizations are as follows:

- National American Woman Suffrage Association, now
- National League of Women Voters.
- National Women's Relief Society.
- Young Ladies' National Mutual Improvement Society.
- National Women's Relief Corps.
- National Council Jewish Women.
- National Florence Crittenton Mission.
- Ladies of the Maccabees.
- National Federation of Colored Women.

*Published for educational purposes by order of the council of the Illinois State Medical Society.

Ladies of the Grand Army of the Republic.
 Association of Collegiate Alumnae, now
 American Association of University Women.
 National Congress of Mothers and Parent-Teacher
 Association.
 National Federation of College Women.
 National Federation of Musical Clubs.
 Needlework Guild of America.
 General Federation of Women's Clubs.
 Women's International League for Peace and Free-
 dom, U. S. A. Section.
 Women's Christian Temperance Union.
 Young Women's Christian Association.
 Woodmen Circle.
 National Women's Republican Association.
 Children of American Loyalty League.
 Kansas State Council.
 Rhode Island State Council.
 Indianapolis Local Council.
 Medical Women's National Association.
 International Sunshine Society.
 National American War Mothers.
 National Kindergarten Association.
 Sons of Veterans' Auxiliary.
 National Auxiliary United Spanish War Veterans.
 Association of Women in Public Health.
 May Wright Sewell State Association.
 American Legion Auxiliary.
 Osteopathic Women's National Association.
 Southern Women's Educational Alliance.
 American Lovers of Music.

The combined membership of these organizations is more than eleven millions. The National Council of Women of the United States is affiliated with the International Council of Women of which the Marchioness of Aberdeen and Temair is president. The International Council federates all national organizations in Europe and the Orient. The combined membership of the International Council is approximately thirty-six million. These astounding figures by no means represent the total number of women who are being reached through the affiliated organizations which contact. Many women in the organizations not affiliated with the National and International Council of Women are members of the International Suffrage Alliance, the Trade Union Organizations and the National Women's Party, all of which are more or less infected with the radical communist or milder virus.

At the convention of the International Suffrage Alliance, held in Rome, May 23 of last year, the attempt was again made to amalgamate the International Suffrage Alliance and the International Council of Women. So far, this plan has failed of accomplishment, but its sponsors are by no means discouraged.

Through teamwork on interlocking directorates, a few key women dominate the legislative program in most of the women's organizations. This is the central fact which explains what is accomplished by any of these conventions.

The tendency to federate all organizations nationally and internationally makes it comparatively easy to

control great numbers by small minorities. Take the National Council of Women as an example. There are fourteen committees, the membership of which is composed of the chairmen of like committees in the constituent organization. The representation of affiliated organizations in the National Council of Women is restricted to the president and five delegates. Members are welcome as visitors, but comparatively few attend the board meetings, as it takes both time and money to travel from one convention to another. The present officers in the National Council of Women have served through many years and there have been few changes in the chairmen of committees during the administration of Mrs. Philip North Moore, who was re-elected president for the fourth time at Decatur. Through means of these fairly continuous chairmanships the well-financed propaganda organizations are instructed to penetrate and control the women's organizations.

The two most conspicuous propaganda organizations affiliated with the National Council of Women are the National League of Women Voters and the Women's International League of Peace and Freedom, Mrs. Maud Wood Park, president of the National League of Women Voters, is a vice-president of the National Council of Women. Mrs. Park is said to have great influence over Mrs. Thomas G. Winter, president of the General Federation of Women's Clubs, herself a vice-president of the National Council of Women. The chairmen of the majority of committees in the National Council of Women are also members of either one or both of the above-mentioned organizations.

HOW WOMEN'S BLOC WORKS

All of the principal women's organizations maintain legislative representatives in Washington and the astute Mrs. Park some time ago organized what is known as the "Congressional Committee," of which she is chairman and of which Mrs. A. C. Watkins is secretary.

This "Women's Bloc," as it is called, can in co-operation with the radicals in Congress practically dictate our legislation, and our women, comprising the vast membership of these organizations, women who would quickly resent being called Socialists or Bolsheviks, are blithely passing resolutions and voting for a program that was inaugurated by Madam Alexandria Kollontay* in her Soviet "Department of Child Welfare" in Russia.

The influence of many women is appreciable in the National Council of Women who do not personally attend these conventions. This comes because of their teamwork with the women who *do* attend. For example, Mrs. Raymond Robbins, formerly president of the National Women's Trade Union League, an organization which the Lusk Committee reports "adopted resolutions in favor of the Soviet government," and a contributor to the Rand School of Social Science where socialist leaders are trained, is one of the socialist women promoting pacifist and welfare propaganda. Miss Mary Anderson, chief of the United States Women's Bureau and chairman of the Industrial Relations Committee in the National Council, is

sued a call for a WORLD CONGRESS OF WORKING WOMEN, which met at Washington, November 6, 1919, and adopted the name International Federation of Working Women, of which Mrs. Robbins was made president. This congress gave special attention to "legislative reforms for the purpose of protecting maternity." The *Woman Citizen* magazine, the official organ of Mrs. Carrie Chapman Catt, reports that plans were recommended to secure state grants to mothers for each child born and to secure free medical, nursing and surgical care during maternity and, in addition, an allowance for the support of the mother and child during the maternity period." At the World Congress of Working Women they also advocated that there be organized an INTERNATIONAL LABOR OFFICE OF THE LEAGUE OF NATIONS BUREAU to collect information on best methods of maternity care.

The heart of everyone is touched by an appeal to care for mothers and babies. *The radicals find it easy to build their bureaucracy by selecting such obvious heart appeals* because by such means they sweep the uninformed to the polls unknowingly to vote away individual freedom and Constitutional Government. All students of political economy know that bureau management is costly and inefficient. Under the Sheppard-Towner bill each community must raise part of the funds for the care of its own mothers and babies. The Federal Government contributes a similar amount and assumes direction of the work. *Some day the community will awake to the fact that it would cost less to pay for the care of its maternity cases without Federal aid and under community direction. The great danger, however, is not the increased taxes due to the upbuilding of this undemocratic machine, but the centralized political control thus established.*

It was Mrs. Raymond Robbins who brought forth the idea of a department of public welfare in America. As a "republican" in co-operation with Mrs. Harriet Taylor Upton, of the National Republican Committee, she organized a welfare demonstration at Marion, Ohio, October 1, 1920, at which Mrs. Robbins was the first speaker and at which President Harding, then candidate, was persuaded to come out for a welfare department and a new cabinet officer. As chairman of the WOMEN AND INDUSTRY COMMITTEE OF THE NATIONAL LEAGUE OF WOMEN VOTERS, Mrs. Robbins wrote the "Women and Industry" and the "Education Plank" of the Democratic National Platform which is identical in wording with that of the League of Women Voters long before their convention met. It gives us food for thought when the leading women in both the Democratic and Republican parties are members of the League of Women Voters which organization is admittedly working for pacifism and internationalism and is sworn to uphold the non-partisan movement among women.

TAP PARTY TREASURIES

Rather clever of the women! They tap the treasuries of both the Democratic and Republican parties for funds with which to break down party machinery.

Not long ago Mrs. Harriet Taylor Upton, of the Republican National Committee and Mrs. Emily Newell Blair, of the Democratic National Committee, made a lecture tour for the League of Women Voters, almost, if not quite, together. And a story of this trip was printed in a Sunday Washington paper with authenticated interviews from each, together with their photographs.

When we realize that this same program is being carried out by women in European countries as well, and that the program in our country is backed by these women who manipulate all of the committees from the great national political parties to the humblest church societies, and that they are lobbying for a program identical with that promulgated by Madam Alexandria Kollontay, the director of welfare in Soviet Russia, what are we to think? Madam Kollontay is so radical that even Radak himself objects to her, yet Miss Mary Anderson, head of the Women's Bureau in our Department of Labor, and chairman of Industrial Relations in the National Council of Women, has succeeded in having printed by the Government of the United States this program of Women and Children's Work minus only its Soviet label! Think of the network of club machinery represented by the National Council of Women and realize that this program, through Miss Anderson's chairmanship, permeates the committee work of all the clubs in the United State with this Bolshevik doctrine. Then remember that through interlocking directorates practically the same program percolates through many organizations not affiliated with the National Council of Women, such as the National Women's Party, the National Women's Trade Union League, the International Suffrage Alliance, and others.

Note the important affiliation consummated through the appointment of Miss Carl Williams of the National Education Association as chairman of Elementary Education in the National Council of Women. Since Miss Whitney, the chairman of education, recommended her appointment, it is evident that she is expected to be sympathetic with the present policies of the organization. Certain it is the N. E. A. is strongly impregnated with Pacifist-Socialist propaganda, as its recent convention work proves.

Resolutions passed by small delegated bodies representing great organizations endorse the legislative program of Soviet Russia in the name of reform, of peace, and of child welfare, and the great majority of the membership of these organizations are unaware that a revolution in the United States is being set on foot through this work of women. The most valuable work being done to destroy Constitutional Government is being done by those who deny that they are radicals. Most of them believe their own statements. Radicalism is a wordy system with many aspects. Few people recognize it unlabeled. It is time that we examine beneath the label.

Few people understand the program of deceit which is essential to put across that portion of the

radical program which they term "The Bloodless Revolution," or revolution by the ballot.

Let us now examine some of the most illuminating statements from the official records of the Communists.

The Third Congress in conjunction with the International Women's Congress at Moscow, July 8, 1921, adopted the following resolutions: "The interest of the working class, especially at the present moment, imperatively demands the recruiting of women into the organized ranks of the proletariat fighting for Communism in all places where the Communist parties exist illegally or semi-illegally; the party should organize an illegal apparatus for work among women. In all legal bodies there must be at least one party member to organize the women for illegal work."

Sara Bard Field, one of the foremost leaders of the National Women's Party, was chosen with Jane Addams to make the presentation speech of the three suffrage statutes to Congress in 1921.

Miss Field addressed the Speaker of the House of Representatives thus: "Mr. Speaker, I give you revolution!" On February 12, 1922, Miss Field, in a letter to Brigadier General Ames A. Fries, says "I have no confidence in anything short of revolution. Peaceful by all means, if possible; bloody, if necessary, in every land, resulting in the establishment of the Communist idea in some form to do away with war. Women should stop short at nothing but the full abolition of war, pull the support from under it and go about the building of a new world as Russia is painfully trying to do."

Mrs. Gifford Pinchot was mentioned for a chairman of an important committee in the council. Mrs. Pinchot was not elected for the place, but she is one of the inner circle in the National League of Women Voters and her dominance in that organization has a vicarious reflection in practically everything done in the National Council of Women, because most of its chairmen are members of the League of Women Voters.

Recently the Boston *Transcript* published a series of articles by R. M. Whitney on the "Reds in America." In one of these articles, Mr. Whitney published the "Sucker List" meaning the list of names of those who contribute money to the Communist cause. Mrs. Gifford Pinchot's name appears upon this list and in view of the fact that Gifford Pinchot is governor of one of our greatest states and a Presidential aspirant, this connection with radical propaganda should be pondered. Mrs. Pinchot is prominent in the International Women's organizations and Mr. Pinchot's election as governor is very largely attributed to the work with which the "non-partisan" League of Women Voters did in his campaign. Governor Pinchot is the father of paternalism or state socialism in the United States and if Count von Bernstorff formerly German Ambassador to the United States, knows what he is talking about, these theories sponsored by Governor Pinchot were "made in Germany."

We have enumerated only a few of the women who are working to organize a bureaucracy that will control women and children, education and industry. The big idea is to centralize the control of all things possible in the Federal Government. And this is the destruction of Constitutional Government. This is Empire and it of small consequence whether we call our ruler President or Kaiser.

The activities of the key women in the various organizations make possible an understanding of the methods by which these matters are to be accomplished. As these activities appeared at the Decatur convention, a glance at its program may be instructive.

Mrs. Maud Wood Park, president of the National League of Women Voters and vice-president of the council, gave an address upon the subject of "Women's Aims in Legislation." Mrs. Park has been ably assisted by Mrs. Florence Kelley, the Socialist translator of German Socialist works, who is herself president of the Inter-Collegiate Socialist Leagues, later called "League for Industrial Democracy." Mrs. Kelley is mentioned in the Lusk report as being connected with more than one Socialist organization. The League of Women Voters proposes to conduct a school of politics. It has already held sessions in several of our important colleges and universities. Naturally, it is necessary for them to mis-label their work to secure entry.

The membership of this League of Women Voters is the preponderant influence today in the National Council of Women. Almost equally powerful within the council is the Women's International League of Peace and Freedom *whose delegates refused to salute the flag at the Decatur biennial.*

Among the resolutions introduced by the International League of Peace and Freedom at the convention in Decatur of the National Council of Women was one calling for the evacuation of the Ruhr, another for the cancellation of war debts and still another for the recognition of Soviet Russia.

To comprehend the full significance of the reappointment of Mrs. Lucia Ames Mead as Chairman of Permanent Peace in the National Council of Women, one should know the proceedings of the Annual Conference of the Women's International League for Peace and Freedom held in Washington, D. C., March 13-16, 1923. Mrs. Lucia Ames Mead is lecturer and organized in this organization.

Over the headquarters of the International League of Peace and Freedom at Washington no American flag floats.

At this convention the spirit of the Russian Communism prevailed. The recognition of Soviet Russia was urged and it was agreed to deluge the members of Congress with letters to that end. Helen Hoy Greeley advised our government to follow the example of Mr. Otto Kahn, of Kuhn, Loeb & Company, international bankers, who advocate full and immediate recognition of Russia.

Each item of work advised by this convention is to be found outlined in the Third International Docu-

mentary Instructions sent from Moscow to the Communists of the United States and now in the files of the government at Washington. It was specifically stated in this document that the suggestions made are for the purpose of weakening the government.

One of their principal points is the abolition of the Army and Navy, especially of the Chemical Warfare Department, since gas may be used to quell riots, and they plan the beginning of the revolution in the United States with riots. Disarmament is to come about gradually through the discouragement of military training in the schools and summer camps, and the eventual abolition of the National Guard.

Mrs. Harriet Conner Brown, wife of Herbert D. Brown, chief of the Efficiency Bureau of the Federal Government, said, among other things, "We women are going to repeal the Army Reorganization act. . . . Act as mugwumps ladies, vote the Democratic, the Republican or the Socialist ticket to gain our ends, and do away with the Army and Navy, the National Guard and every other form of militarism. . . ." She also said that there are three ways to accomplish this. They are "the ballot, passive resistance, and education of public opinion through our propaganda. There is much for us pacifists to do. We must get into all sorts of clubs, women's clubs, farmer's granges, welfare associations. We must get into religious organizations whenever and wherever possible—Chautauquas, schools—everything, and we must send our propaganda everywhere." Mrs. Brown must be vastly pleased with the influence exercised by Mrs. Mead and other members of the International League of Peace and Freedom within the National Council of Women.

*See editorial of this issue.

MEDICAL EDUCATION*

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In a paper entitled, "Future of Medicine as Affected by Ultra-Specialization," published in the November, 1921, number of the *Ohio State Medical Journal* and republished in the March, 1922, number of the *Kentucky State Medical Journal*, I presented a small but sufficient part of the evidence, to prove that the ultra-specialists of the world have not contributed their fair share to the science of medicine; that men with general information and general knowledge have done most of the fundamental worth while things in the past. Not only this, but ultra-specialists have sometimes hindered progress and are responsible for most of the fads in medicine. A careful study of the above paper will, I believe,

convince anyone of the correctness of these conclusions.

The purpose of medical education is to provide for the present and future citizens of the country the best medical care, service, and attention that is possible under the circumstances. We are not doing this today. And we are not likely to do this until we realize the faults in our present system of medical education.

Just now the story is making the rounds that there is a shortage of medical men. Nothing could be further from the truth. The fact is that the medical profession as a whole, and particularly of the cities, is greatly overcrowded. Seventy-five per cent. of the medical men of Chicago could easily do twice as much work as they are actually doing, and should do twice as much and have twice their present incomes, if they are to get a fair return on the money invested in their education. The real difficulty is a faulty distribution as to location and the prevailing tendency of medical schools to turn out more and more specialists and fewer and fewer general practitioners. As a consequence of the above, the residents of some of our rural districts are in danger of soon not getting the kind of medical service which their ordinary ills require, for fully ninety per cent. of human ills can be best treated by a well trained general practitioner. My contention is that the medical schools of today, particularly the ultra-scientific medical schools, do not properly supply the demands of the times and that the education offered and the text-books used are extremely faulty. The medical schools must first realize their shortcomings, then deliberately make an effort to fulfill the function for which they are primarily created, namely the education of general practitioners of medicine. The education of the specialists should be left to properly constituted post-graduate medical schools and hospitals. Every medical student should first of all be given the opportunity to become an efficient general practitioner, and then later, after having had five years or more of experience in the general practice of medicine, if he shows special fitness and a desire to become a specialist, the post-graduate schools and hospitals should offer the opportunity. The medical student of today is actually being taught by a large number of specialists, nearly every one of whom is laboring under the delusion that his specialty is the

*Presidential Address, 74th Annual Meeting of the Illinois State Medical Society, Springfield, Illinois, May 8, 1924.

one important phase of medical education. These specialistic teachers are constantly clamoring for more and more time for their particular specialty. Some years ago a very learned and very scientific gentleman became professor of anatomy in one of the medical schools of this city. The first six weeks of his course was devoted to the modelling of the femur in clay; twelve weeks of his course was spent in an intensive study of the embryology of the brain. I happen to know positively that when these students came up for the County examination scarcely one of them knew in which part of the body the median nerve was located, to say nothing of its relation to other important structures. Another professor in this same institution spent many weeks on the ionic theory with the result that his students knew little of the fundamentals of chemistry. While it is true that these are extreme instances it is however more or less typical of present day medical education. Altogether too many of the teachers are lacking in a broad vision of the requirements for the general practice of medicine and instead are trying to make specialists of the students in their own individual lines of endeavor. I believe that very much better results in medical education would be obtained if at least some of our medical schools would admit young men and women who are graduates of an accredited four year high school, who have had two years of practical experience in life, and who would then be given an intensive practical course of four years in the medical school with one year interne service before graduation. As it is today few men of moderate means can afford to study medicine and those who do graduate from our unnecessarily long courses cannot afford to practice in sparsely settled sections of the country where the income must from the very nature of things be relatively small. The teacher of chemistry, for instance, who is unable to give a sincere, earnest, hard-working young man or woman with the above qualifications all the chemistry he needs for the successful and efficient practice of general medicine in a two-year course either does not know how to arrange his course or how to teach his subject, or both, and should himself take a year's post-graduate course under one of the greatest teachers of medical chemistry of all times—Professor Water S. Haines. Before entering Rush I had had three years of chemistry

including qualitative, quantitative, both gravimetric and volumetric, organic and pharmacological chemistry and urinalysis, and that under excellent teachers, and yet I marveled at the amount of useful, practical, and applicable chemistry Professor Haines was able to impart to his students in a relatively short time with very meager laboratory equipment. The greatest medical teacher is not necessarily he who knows the greatest number of scientific facts but he who can impart to his students the greatest amount of useful information in the least possible time, and judged by this standard Professor Haines stands almost without a peer.* This class of medical teachers is unfortunately steadily decreasing in number. And let me paint for you the opposite and now generally prevalent picture. About twenty years ago Dr. Wm. J. Mayo went east for a week to attend a certain clinic. On his way back he stopped over in Chicago. Happening to meet him and knowing where he had been I inquired about the kind and quality of work he had seen with a certain clinician. He said "I have spent a week in the clinic of Professor Blank. I have marvelled at his erudition but I have marvelled still more how it was possible for any man to acquire so much useless information and get so little useful information mixed up with it." This is the increasingly prevalent type of medical teachers today and if medicine is going to progress we must encourage the former and discourage the latter. I for one am very doubtful whether the average medical graduate of today ever will be as useful a member of society as is the average medical graduate of the three decades between 1880 and 1910. The men who graduated in that period have done more for the advancement of medical science than the graduates in any other equal period of time in the history of medicine. And they have given and are giving the people of the world, and particularly the citizens of the United States, the best medical service that the world has ever seen. They were men trained according to the ideas suggested above. They had acquired judgment and the habits of industry before they entered medical school. Let us retain the best of that period.

From the standpoint of pedagogy and practical psychology our present medical education is

*The above was written while Professor Haines was still living.

fundamentally wrong. The young student is immediately overwhelmed with details. What he actually needs is an outline knowledge of the fundamentals, the details to be filled in later. The fact that if the attention is diverted to the non-essential, the essential is lost sight of, so well understood by the sleight-of-hand performer, seems to have been completely lost sight of by our ultra-scientific educators. This fault in education is not a new one and prevailed in German medical schools long before ours were thus afflicted, and it is one of the bad things we copied from Germany. My attention was first called to this fact by a malpractice suit which attracted wide attention in Germany some twenty-eight years ago. A young medical practitioner was sued for malpractice because he had injured the tympanic membrane of one of his patients in the attempt to remove hardened wax with a metal instrument. Professor Herman Schwartze, Halle a. d. Saale, one of the most prominent aurists of Germany of that time appeared as a witness for the defense and stated that the medical practitioner was not blamable because in none of the medical universities of Germany were students taught that a metal instrument should never be used for the removal of dry sebum, and that the general practitioner could not be supposed to know what he had not been taught in his medical course. Professor Schwartze further stated that the specialistic professors were so much occupied with teaching the students useless and unessential things that they did not seem to have time to teach them such simple and yet so very important facts. Professors of the various universities were called upon to testify and they were forced to admit that none of them had taught this simple elemental truth. The same thing is occurring in this country today and it is a particularly glaring fault in our medical text-books. The medical text-book writer is making the mistake of trying to write one book to answer both as text-book and reference book. Only recently I looked over a standard text-book on gynecology. I found four different types of perineorrhaphies with many variations described. What student can possibly learn all of these and keep them clear in his mind? What need has the recent graduate in medicine of knowing so many different perineorrhaphies? He would be very much better off if he knew first, how to prevent lacerations; second, how to repair them immedi-

ately after parturition; and third, how to do one simple good reliable perineorrhaphy. Look through the text-books on surgery, for instance, and turn to the heading "Empyema." You will find a lot of non-essential matter and rarely a mention of the four important and fundamental things in the treatment of empyema; First, multiple drainage; second, prevention of secondary infection; third, avoidance of irrigation; fourth, waiting for immunity to develop before operating. By observing the above four essentials I have never been compelled to do a secondary operation on an empyema case operated on by me primarily during a period of twenty-five years of active surgical practice.

It is evident that the pendulum is already beginning to swing the other way and that the older clinical methods are gradually coming back. At the Tri-State District Medical Association meeting at Peoria, October 30 to November 2, 1922, inclusive, one of the gentlemen spent a considerable portion of his time calling attention to the unreliability of the Wassermann test and urged very strongly that we re-learn the clinical symptoms of syphilis so well understood by our Fathers in medicine, in order that we may make the diagnosis of syphilis with greater accuracy. Another speaker urged upon his hearers that we give more attention to the treating of syphilis by mercury and potassium iodide and not put so much dependence on the arsenical preparations. A third speaker said that fifteen years ago he thought he could differentiate lues, tuberculosis, sarcoma and septic infections of the bone and joints by the x-ray alone in practically every case; that then he began to check his diagnosis by means of microscopic examination of tissues and bacteriological investigations and found that as a matter of fact 40 per cent. of his diagnosis where he depended upon the x-ray alone were wrong. This was a courageous thing to state, and the only criticism that I have to make is that even fifteen years ago he should have known that the x-ray alone is not a dependable guide to diagnosis and should be looked upon only as a handmaid to other older, more reliable methods. Twelve years ago I delivered an address at Anna, Ill., in which I strongly urged not to pay too much attention to the Wassermann in the diagnosis of lues but more to the clinical findings and not to depend so much upon 606, but more upon mercury and potassium iodide.

A great text-book author must be able to select from the great number of known facts the ones which are of fundamental importance and must then be able to present them in such a way as to give every fact its proper relative emphasis. Not until text-books are written from this point of view and until we have medical teachers who can select the essentials from all the known facts and properly correlate them can we hope to make further progress in medical education.

Some twenty years ago I spent a winter in post-graduate work at a prominent German university. The professor of orthopedics devoted six two-hour periods in demonstrating and explaining to the senior class of medical students a dozen different ways of applying body casts for tuberculosis of the spine, demonstrating apparatus that filled a number of rooms and would cost at least five thousand dollars in this country today. In my opinion he would have done very much better if he had taught them just one simple universally applicable method of applying in a body cast, using an outfit that can be bought anywhere for \$25.00. This same professor has written the best reference book on Orthopedic Surgery that I have ever seen, which, however, as a text-book is entirely unsatisfactory, because only he who already has an extensive practical knowledge of the subject is able to differentiate between the essential and the non-essential therein contained.

Some of the refinements in diagnosis and treatment which are now in vogue are unquestionably very interesting to the research worker and in part may ultimately be of some real benefit to medicine. But the questions which the man who actually teaches under-graduate students should ask himself are, "Have they proven their dependability and are they of sufficient fundamental importance for the student to spend his time on in the present stage of his educational career?" While a certain small number of cases require some refined diagnostic methods, in the great majority of cases such ultra-refinement is not necessary and often not desirable because it only too often tends to confuse rather than to clarify. The x-ray in gall-stones, for instance, misleads more often than it aids. Let us remember that after all the five well trained senses are usually indispensable in reaching a correct diagnosis and let the teacher ever emphasize this point and do every-

thing in his power to teach the student the proper use of these senses; not to the exclusion of the other diagnostic methods, but with the understanding that the percentage of errors in conclusions based upon a careful examination of a patient by the unaided senses, is much smaller than the percentage of error in conclusions based exclusively upon almost any one of the more modern ultra-scientific diagnostic methods.

In this connection permit me to insert just one illustration. Several months ago a senior medical student with a Ph.D. degree in bacteriology was making rounds with a prominent surgeon. The surgeon turned to the student and asked "How can you diagnosis a pyocyanus infection?" The student went into a lengthy detailed description. Then the surgeon asked "How long would it take you and what would be the likelihood of your isolating the germ?" The student answered, "It would probably take me several weeks and then I might not be able to make a diagnosis." The surgeon stepped up to a bed patient, removed a dressing, told the student to smell of the pus and walked away with the remark, "If you had been properly trained you could have made the diagnosis with your nose when you stepped into this room."

Let him ever emphasize that the best results can be obtained only if the ultra-scientific methods are employed merely as aids to the simpler methods. This can only be accomplished if a much larger per cent., or better still, if all of the teachers in the fundamental branches are men who have had extensive personal experience in the practice of medicine and if the teachers of the clinical and applied branches are men actually engaged in the practice of medicine, men with a broad outlook upon their profession. It can be accomplished only if the specialties are properly kept in the background and the great fundamentals of internal medicine, surgery and obstetrics are given the center of the stage, so far at least as the teaching of medical under-graduates is concerned.

As the end result in medical education depends upon everything that has gone before it will be necessary to briefly analyze the whole system of education in order to call attention to some of its most glaring defects, particularly as affecting medical education. The average student who seeks entrance to a medical school presents about the following qualifications: He entered the primary school at the age of six, or possibly

even kindergarten at the age of four or five, goes to primary school on the average of nine or ten months a year for four years, then grammar school for another four years, then high school for four years, university from two to four years. During all of this time he has had practically no opportunity to learn how to buckle down to real work, to acquire industry or judgment, for judgment cannot be learned in schools. It is acquired only in the practical experiences of life. Osler once said the older he became the more he became convinced of the fact that judgment and common sense were in inverse proportion to book-learning. Then the medical student starts his medical course utterly lacking in judgment, and is here so overcrowded learning facts upon facts and details upon details, that he rarely ever gets time to actually sit down and think or to properly correlate his experiences. He is apt to come out of the medical school crammed jam full of facts without a proper appreciation of their relative value. The individual who can pass through such an educational system, such a grind of from nineteen to twenty-four years, and have any individuality, personality or enthusiasm left or ability to formulate a clear vision of the future must indeed have been a wonder to start with. He is much more likely to come out a standardized nonentity. And when one of these medical graduates utterly fails in even rendering suitable service to society or making a decent living, as is happening to an ever increasing number of these graduates, it is a great economic loss to society and a real human tragedy to the individual.

Standardization does not necessarily make for efficiency and progress; it only too often results in a dead level of uniform, uninteresting mediocrity.

The purpose of education is to prepare individuals for a life of useful, efficient service.

Faults of Kindergarten, Primary and Grammar School Education:

1. Child pushed beyond its capacity.
2. Too much study; too little play.
3. Over-stimulation.
4. Result—Child becomes exhausted and blasé!

Faults of High School Education:

1. Prepared for college; and NOT for life, for usefulness, for service, for efficiency.
2. Book learning and practical experience not properly balanced.

Faults of Medical Education:

1. The average medical school curriculum prepares for examinations and the specialties and not for the general practice of medicine.
2. Diverts attention from essential to non-essential.

The graduate of medicine of today has spent on the average of 22 years in acquiring knowledge and almost no time in learning how to apply that knowledge. I am a thorough believer in half and half in education—half book-learning and half practical experience, as nearly as possible simultaneously acquired, the former to acquaint the student with what humanity has done, observed, experienced, and learned in the past; the latter to give the student versatility, individuality, personality and judgment, and to teach him the need and importance of persistent, unflagging industry.

Scientific knowledge, unless coupled up with conscience and judgment, is quite as apt to be baneful and destructive as beneficent and constructive. Book-learning in medicine is a good deal like nitro-glycerine in the arts. The latter in order to be safe and manageable must be mixed with a certain proportion of sawdust. The former, in order to be dependable, must always be mixed with a goodly portion of general experience and practical common sense.

As I see the problem of medical education today, it is to maintain the present standard of scholastic requirements for admission with the possible exception made above, and the present standard of medical school equipment and from now on devote our time to improving the quality of medical students and the quality of teaching these medical students receive during their medical college course. What the medical graduate needs today is not more knowledge but more useful, applicable, knowledge. I was forcibly impressed with this need a few months ago when I drove to a consultation with a recent medical graduate. As we were discussing various medical subjects this man said: "My medical teachers have taught me innumerable facts, but they have taught me very little that is of practical use to me in general practice." The physician who voiced this complaint was a college graduate, had himself been a teacher of English in a secondary college, was a graduate of a Class A medical school, had served an internship in a large metropolitan hospital, recognized by the American College of Surgeons, and yet he voiced the

above criticism about two years after completing his interne service, a criticism which I believe was entirely justified by the facts in the case. This young physician had an analytic mind. He did not do what so many recent graduates do—flounder around in private practice for a year or two, give up in disgust and despair and go into a specialty or get a minor city, county, state or federal job or a job with a big corporation with little pay and little opportunity for further advancement and development. He went to the bottom of the matter and at least found out for himself what was the matter with the situation.

It is generally conceded that the best interests of the profession and the public demand that out of 100 graduates of medicine between 80 and 90 ought eventually to find themselves in general practice. I claim that all of them should have at least three years' experience in general family practice before they enter a specialty, this in order to get that breadth of vision, that human sympathy which every medical man should have. However, this is a point about which men may honestly differ, but at least the other 85 per cent who are needed in the general practice of medicine should be equipped for that practice.

We have conceded that the scholastic requirements of the students as they enter upon their medical studies is high enough and in some colleges even too high if applied to all entrants and that on the whole the equipment of the acceptable medical colleges is adequate. Now let us analyze the qualifications of the teachers who are supposed to impart the information to the 85 per cent whom we all agree are needed as general practitioners of medicine. I fully realize that I am treading on dangerous ground and am tackling a problem that few have dared to tackle. However, the problem is of vital importance to medical progress and as medical progress is vital to the progress and welfare of the race it is a problem that must be faced and solved sooner or later. So why not make a beginning now, however inadequate that beginning may be in the hope at least that ultimately a definite solution may be obtained?

If we should make a candid, fearless investigation and survey of the teaching faculty of any of our acceptable medical colleges we would, I believe, find that not to exceed 25 per cent of the members of such faculty, from the dean down to the youngest instructor, possesses the kind of information and knowledge which the student

needs to acquire in order to make him a competent general practitioner. I do not question the scholastic attainment of these members of the faculty, their great learning in their special lines, but I do maintain they are unable to give and, what is still more important, they do not actually give the students the instruction which they need when they start out in the general practice of medicine. I repeat, a great majority of medical teachers are not properly qualified to teach the students those things which they need in order to become proficient general practitioners. Many of them are specialists in their respective lines, utterly lacking in an adequate appreciation of the innumerable little things that are needed to make a really great physician. You would not and I would not send a young man to a modern shoe factory to learn the cobbler's trade; you would not and I would not send a young man to a large wholesale clothing factory to become a merchant tailor; you would not and I would not send a young man to the American Steel Company to become a general blacksmith, and I would not, if I had a son who wanted to study medicine, send him to any of the medical colleges with faculties such as I have just described if there were another medical school where at least the majority of the faculty were properly qualified to instruct such a student in the fundamentals of general practice.

Before I go any further I wish to say that there is no one who appreciates the value of services rendered by the Council on Medical Education and Hospitals of the American Medical Association to medical education more than I do in so far as the raising of the standard of the scholastic requirements of students entering upon the study of medicine and to the improvement of the equipment of medical colleges is concerned. These two steps had to be accomplished before further progress could be made. They were, however, the easiest steps, much easier than what must now be accomplished. These gentlemen who have shaped the policies of medical education for the past 25 years are justly entitled to much praise and credit for the good that they have accomplished. But when the impartial history of medicine for the first quarter of the 20th century will be written I am sure they will receive much blame and much just criticism for having let much of the best in previous medical educational methods fall into disuse. They will be justly blamed for having permitted the control of

medical education to slip out of the hands of the medical profession and into the hands of laymen and for making research workers, teachers and specialists out of the majority of their students instead of first making good general practitioners of medicine out of the great majority of them. The medical needs of this country today could be best supplied by about 85,000 well trained, up-to-date general practitioners, about 10,000 specialists in the clinical specialties, about 4,000 sanitarians and not to exceed 1,000 research workers. Of what use are all the new discoveries of the research workers unless we have a well trained army of general practitioners to apply them? This number of medical men thus proportioned and properly distributed over the land could supply all the legitimate needs of the nation. What would you think of the automobile manufacturers of this country if they should decide at a national convention that for the next five years 50 per cent of the new cars were to be limousines and sedans to cost at retail not less than \$3,000.00 apiece and that they would employ as foremen in their shops only college graduates who had never had a day's practical experience in a machine shop?

What medicine needs is not so much more facts as a proper correlation of the facts already known. As things stand today the general practitioner is fairly overwhelmed with facts, the great majority of which are of no practical value. What we need is not more research workers to discover new facts but a few great medical minds who can take the great number of facts already known, separate the non-essential from the essential, arrange and classify them properly so that the latter can be more generally made use of by the busy practitioners in their daily practice. What we need even more than this is a larger number of medical teachers who can and will teach medical students the essentials of medicine in the shortest possible time without cluttering up their minds with a lot of non-essentials, so that we may have a larger and larger percent of graduates ready, willing and able to supply the people with efficient medical service for their common ordinary ills, a service which is quite as important and quite as necessary as any that can be rendered to society.

Change is not always all for the good nor is it always progress. The new order of things in medical education has brought many changes and much for the better, but unfortunately we

have lost much of the best of the old. The old privately owned medical colleges had many faults, but we should have retained their best features.

1. We have all but lost the mature serious-minded student, with judgment acquired from practical experience, with a life philosophy already formed and stabilized.

2. We have substituted much theory for facts proven by long experience.

3. We have in our medical faculties largely substituted the scientific investigator with no medical experience and hence little medical judgment for the clinician of vast experience with thousands of practical points at his finger tips.

4. The medical profession has almost completely surrendered control of medical education to laymen to the serious detriment of medical education.

The great clinicians are slowly but surely becoming extinct and unless we devise some means to bring back the things of value in medical education that we have lost there will be none to take their places. The sick, suffering patient does not want theories of disease, he wants quick and sure relief from his suffering and this the great clinicians were usually able to give, and if this was beyond their power they were at least able to extend a deep human sympathy.

One of the greatest defects is that the average medical graduate of today has had so little practical experience that he cannot understand the purely human problems of the average layman, his point of view or often even his language and hence has no common bond of sympathy and often cannot make himself intelligible to his patient. In other words, he is out of joint, out of gear with the workaday world with the result that many laymen are flocking to the untrained and uneducated cultists with whom they have a point of contact and a common interest. If in addition now one or two of the cults should make an effort to learn a few of the important things about medicine and surgery it might easily happen that the cultists would soon have most of the practice of medicine which would leave little for the highly trained, scientific physician but to wrap himself in his cloak of self-sufficiency and make room for those with a clearer vision of the needs of society.

I am still hopeful that those who control medical education will see the light and apply the proper remedy before too much mischief is done.

2155 Cleveland Avenue.

KEEPING THE HUMAN MACHINE IN ORDER

WILLIAM BUTTERWORTH

President, Illinois Association for the Promotion of Periodic Health Examinations. President, Deere and Company.

MOLINE, ILLINOIS

Some time ago I read a story, important enough to occupy a first page place in a leading metropolitan journal, about what a famous American manufacturer was doing to keep in good health and attain a ripe old age.

He was Samuel M. Vauclain of Philadelphia, president of the Baldwin Locomotive Works.

"I pay my physician so much a year for keeping me well," Mr. Vauclain said. "When I get sick his pay stops. I don't have to worry; I let him do that. But I am careful to obey his orders. He examines me physically at frequent intervals and tells me what I must do to be saved."

Mr. Vauclain is doing the natural thing for a man of his type and education. He is an engineer. He believes in going over the human machine at least as thoroughly as one would have his motor car, or any other expensive piece of machinery examined by an expert at regular intervals.

I think that one of the reasons there are so many healthy and strong men among our manufacturers, bankers, and merchants is because they are doing what Mr. Vauclain has recommended. They are having their human machinery examined and regulated. Their family physician thumps their chests, makes them open their mouths and say a long "A-a-a-h-h," taps them on the knees for reflex action, takes their blood pressure, make the necessary trials for indication of Bright's disease or diabetes and goes through the few other simple tests that tell him whether their organs are functioning properly—whether the human machine, in other words, is hitting on all six cylinders. Many lives are lengthened—many men are spared for important work and the enjoyment of life that does not end after one is fifty. Decrepitude is halted for many long years.

I don't know who first made regular physical examinations fashionable among men of affairs. I think it was the life insurance companies. Possibly the good old family physician had something to do with it. At all events the practice is increasing and is most beneficial.

Now if physical examinations are good for men of affairs like Mr. Vauclain they must be good for the rest of us. I have believed in them for years. They have been encouraged among the working force of the factory I represent. So when I heard that I had been elected president of the Illinois Association for the Promotion of Periodic Health Examinations I accepted the office because I favored the health reform movement, if you can call it that and was willing to help.

If physical examinations are good for the rich man they are good for the poor man, who has just as much right as any one else to enjoy good health and old age. The trouble is the average man and woman puts off calling on a physician till the last minute. Then it often is too late. It's a good deal like making a will. Many people defer it as long as possible. They hate to do it; possibly they think they are going to die if they make their wills. And I daresay there are not a few persons who feel that if they have anything wrong with their interior mechanism they'd much better know nothing about it. That's where they're wrong. If one of their physical screws is loose or something needs tightening, or oiling or adjusting, it would be much better to know the nature of the trouble and fix it in time.

A doctor told me the other day that for every sick person on their lists the physicians had 100 well persons. This sounded encouraging until he added that many of the ones who thought their health was good had the germs of disease incubating in their systems, although preventive treatment would cure them. Out of the 110,000,000 population of the United States, I am informed only from 1.5 to 2 per cent. have medical attention once a year.

One of the diseases which is being successfully overcome by medical examinations and proper treatment before it is too late, is tuberculosis. The statement was made recently that should the declining rate in tuberculosis (which prevailed from 1900 to 1922), continue, the disease would disappear in 1955. Educational work in the treatment of tuberculosis certainly has paid large returns.

What has been done in tuberculosis we think can be done in the case of other diseases which are taking off so many of our people, such as diseases of the kidneys, heart disease, pneumonia, high blood pressure maladies and cancer. It is

asserted by physicians that 70 per cent of cancer cases, if taken in time, can be cured by surgical operations. A report submitted recently at the annual meeting of life insurance presidents of New York showed, for last year, a death rate of 853.1 per 100,000 in the United States and Canada, compared with 834.5 in the corresponding period in 1922 and 828 in 1921. Influenza and pneumonia were among the chief causes of the increased number of deaths. Organic heart disease, cerebral hemorrhage and Bright's disease also showed increases. Decreases were noted in typhoid fever, tuberculosis and cancer.

American employers are interested in physical health examinations of their employes from a humanitarian point of view. But there also is quite an important economical consideration, for it is a serious interference with plant efficiency when workers have to lay down their tools on account of illness. The illness of a single worker frequently throws out of gear the entire team of which he may be an essential factor. Putting a green man to work on the team often may reduce the output as much as 20 per cent. If there are five men in a team, at the present rate of illness among workmen, there are approximately thirty-five days every year when one or the other members of the team is absent, cutting down the production of the team from 10 to 20 per cent. during the thirty-five days. If the average loss per year for each worker were only five days, in place of seven, as it now is, it would mean saving millions of dollars to employers of the nation in increased efficiency.

A paper mill manufacturer with 600 employes, reports an interesting experience with physical examinations. These examinations were introduced because of compensation claims which the company felt were based on troubles originating prior to employment. Pleasant relations with their employes made it easy to get their acceptance of the plan.

A part-time physician conducts the tests, and records are made covering the following points: sex, color, marital status, age, weight, height, eyes, ears, nose, throat, teeth, gums, temperature, pulse, arteries, blood pressure, heart, lungs, abdomen, extremities, reflexes, urinalysis, and genito-urinary findings. Up to July 1, 1923, 547 applicants were examined and corrective treatments were prescribed in 154 cases. Among the defects discovered were 55 cases of hernia

(36 being first degree, 7 second degree, and 12 third degree), 32 cases of venereal disease, 13 cases of suspected tuberculosis, 29 cases of pronounced diabetes, and 27 cases of impacted wax in the ear. Of the 547 applicants, only two were refused employment. The company's policy is to place men at the work for which they are best fitted by their physical capabilities and limitations. The applicants who needed treatment were told what to do in order to improve their condition.

Physical examinations should include regular examination of the teeth. It long has been known that neglect of teeth cause disease elsewhere, through infection. Over 100 years ago, Dr. Benjamin Rush, after whom Rush College in Chicago was named, wrote a book on medical practice and in the first chapter cites many cases in which patients suffering from rheumatism and other maladies either were cured or greatly improved by the extraction of teeth. More than a century ago in England examination of the teeth of school children was considered a routine procedure.

Teeth of the average adults appear to have been neglected judging from the evidence of 6,000 x-ray pictures taken of the mouths of 600 adults of the average age of twenty-eight years. These pictures showed over 1,500 treated teeth and an average of $5\frac{1}{2}$ teeth missing for each person. Allowing for a few who never had wisdom teeth, we might say that an average of four teeth for each person had been extracted because of neglect of cavities or decay. These same x-ray pictures show that 51 per cent. of these 600 adults had infected areas at the ends of roots of one or more teeth and 53 per cent. had parts of the bone along the sides of the roots destroyed by the infective process known as pyorrhea. Of the entire 600, 78 per cent. had one or the other or both types of infection. Nearly every leading physician will tell you that infections of the teeth are by far the most frequent causes of secondary infections elsewhere in the body. The lack of attention to the teeth of our children and adults as well is resulting in a series of disabilities which is without doubt cutting short the lives of many people.

The Illinois Association for the Promotion of Periodic Health Examinations hopes to educate the public to the need of looking after the body machinery before it is too late. The board of directors is composed of representatives of the

SURGERY OF THE BILE TRACTS AND A REVIEW OF 85 OPERATED CASES*

EMANUEL FRIEND, M. D.
CHICAGO

For the purpose of obtaining more information regarding the etiology, pathology and diagnosis of gall-bladder disease the histories of 85 cases have been carefully studied. In each case a pre-operative diagnosis of some form of gall-bladder disease had been made and the operative findings verified the diagnosis with the exception of one case.

Incidence—Of the 85 cases, 74 were females and 11 males. This corroborates the general observation that gall-bladder disease is more common in women than in men. Jacobson¹ ascribes this preponderance to: 1. The sedentary habit of women. 2. The poor muscle tone with ptosis of abdominal walls and organs, causing kinking of the extrahepatic ducts. 3. The frequency of pelvic infection with blood stream extension. 4. The mechanical effect of the enlargement of the uterus during pregnancy. 5. The supposed hypercholesterinemia; and 6, the concentration and inspissation of bile during pregnancy.

*Read before the Chicago Medical Society, Oct. 25, 1922.

1. From the Surgical Department of the Michael Reese Hospital.



No. 1. First step in removal of Gall Bladder. Application of ligature to cystic duct and artery by means of Aneurism Needle.



Fig. 2. Second step. Application of clamp to cystic duct and cutting through serosa of Gall Bladder.

The average age of all patients was 39.7 years, that of the females 39.28, and of the males 39.21 years. Classified according to the decade of life in which the disease occurred it was found that 19 were between the ages of 20 and 30; 22 between 30 and 40; 29 between 40 and 50; 12 between 50 and 60, and 3 between 60 and 70. There were no cases in the series occurring before the age of 20. Gall-bladder disease is of rather rare occurrence before the age of 20. W. J. Mayo in 4,000 cases found 41 under 20 years of age, three of them being males.

Of the 73 females only one was single and of the 73, 62 had given birth to one or more children. 4 had been pregnant one or more times but had aborted in the early months, and 9 had never been pregnant.

ETIOLOGY

(a) *Typhoid fever*. Twelve of the 85 patients gave a history of having had typhoid fever from three to twenty-four years previous to the onset of the gall-bladder disturbance. At operation nine of the twelve patients were found to have stones and three infected gall-bladders without stone formation. Chauffard has shown that the incidence of typhoid fever in individuals who had stones was not very much greater than in those without manifestations of calculus. Jacobson¹ made a careful study of the incidence of

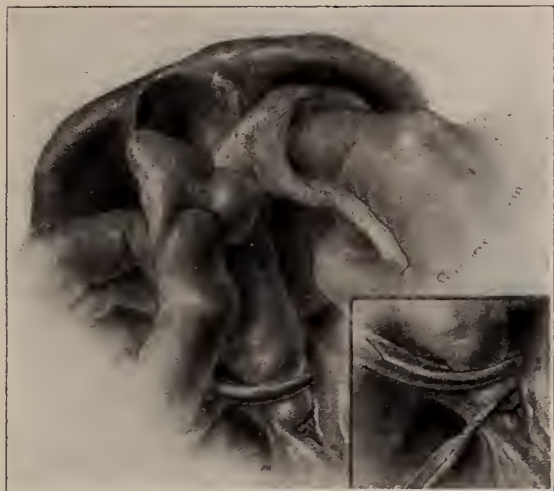


Fig. 3. Sponge dissection in removal of Gall Bladder and cutting through cystic duct.

typhoid fever in his own cases and in the cases reported in the literature and his conclusions were that a marked discrepancy exists between the gradually decreasing incidence of typhoid fever and the increasing incidence of gall-bladder disease, so that the typhoid bacillus can hardly now be considered as the more probable etiologic factor.

(b) *Menstruation and Pregnancy*—Enriquez, Binet and Durant in a recent article in *Presse Medicale* emphasize the influence of menstruation and pregnancy on gall-bladder disease. In 1,286 cases of gall-stone disease studied by these authors the influence of menstruation on the development of the attacks was manifest in 1,037 cases. The pains in the stomach and the recurring "indigestion" during the menstrual period had been ascribed to pelvic influences until jaundice or gall-stone colic cleared up the diagnosis. In 50 per cent of their cases the gastrovesical crises appeared two or three days before the menstrual period and subsided as the latter became installed. It is their belief that the presence of cholesterinemia during menstruation and pregnancy is responsible for the occurrence of gall-bladder attacks at this time. In our series there was no relation between menstruation and the appearance of gall-bladder attacks. Six patients stated definitely that the onset of pain in the gall-bladder region occurred either during pregnancy or in the days immediately following confinement.

(c) *Infection*—Since Galippe in 1886 advanced the theory of the bacterial origin of

lithiasis in general, much experimental investigation has been carried on to prove that cholecystitis and cholelithiasis are the result of infection by micro-organisms, principally by the *Bacillus coli* and *Bacillus typhosus*, staphylococcus, streptococcus and pneumococcus. In the 85 cases examined, the cultures were sterile in 83, Friedlander's bacillus was found in one and a gram-negative bacillus in pure culture in one. Bacteriologic studies of 320 cases of cholecystectomy in the clinic of Rovsing showed the gall-bladder and its contents sterile in 54 per cent; 52.7 per cent where a single large stone was present and 77 per cent where there were multiple mulberry stones. His observations were that the symptoms of cholecystitis always follow and never precede stone formation, bearing out the conviction that the stones are formed first and infection and cholecystitis come later.

Aschoff and Badmeister² have shown that the abnormalities in the cholesterol metabolism play an important part in the formation of gall-stones. They have definitely shown that hypercholesterinemia predisposes to gall-stone formation for the following reasons: 1. Races whose blood is poor in cholesterol rarely have gall-stones. 2. Those races whose blood is rich in cholesterol very frequently have gall-stones. Dr. Langen presents some interesting statistics in regard to the rarity of gall-stone disease among the natives of Java.

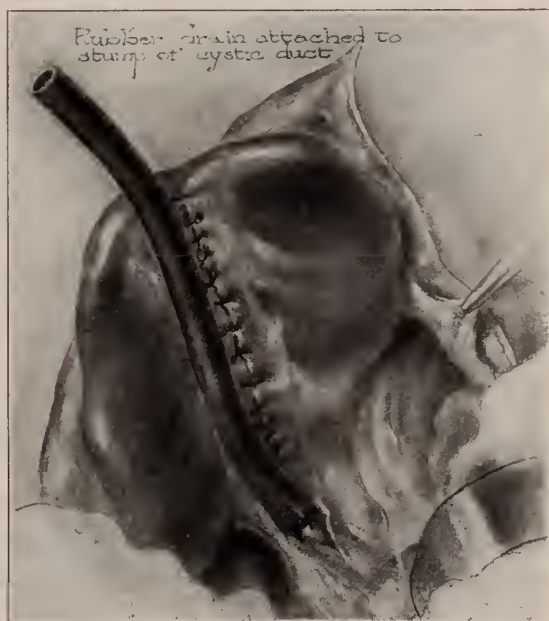


Fig. 4. Gall Bladder bed sewed up and drainage tube fixed to stump of cystic duct.

Case No.	Age	Sex	Civil State	Obstetrical No. Children	History Miscarriages	History of previous Infection	Previous Operations	Jaundiced	X-ray Findings
1	43	Female	Married	9	..	.....	.....	No	.....
2	49	Male	.....	..	..	Venereal	.....	Yes	.....
3	23	Female	Married	5	..	.....	.....	No	.....
4	42	Female	Married	3	..	.....	.....	No	Negative for stones
5	27	Female	Married	5	1	.....	.....	Yes	Negative for stones
6	39	Female	Married	6	..	.....	.....	No	.....
7	23	Female	Married	1	..	.....	.....	No	Negative for stones
8	40	Female	Married	3	3	.....	.....	Yes	.....
9	26	Female	Married	1	..	Pneumonia	.....	No	.....
10	37	Female	Married	4	..	.....	.....	Yes	.....
11	22	Female	Married	2	..	.....	.....	Yes	.....
12	63	Female	Married	8	..	Typhoid 8 years ago	.....	No	.....
13	40	Female	Married	5	..	Typhoid when a child	.....	Yes	.....
14	43	Female	Married	1	..	.....	.....	No	Negative for stones
15	59	Female	Widow	..	..	.....	.....	No	.....
16	38	Female	Married	6	..	.....	.....	No	.....
17	36	Female	Married	2	1	.....	.....	No	Showed stones
18	29	Female	Married	2	..	.....	.....	No	.....
19	22	Female	Married	1	..	.....	.....	Yes	.....
20	52	Male	Married	..	..	Typhoid; Venereal	.....	No	.....
21	68	Female	Married	2	4	.....	.....	No	.....
22	38	Female	Married	8	2	Pneumonia 5 times	.....	No	.....
23	59	Female	Married	10	..	.....	.....	No	.....
24	35	Female	Widow	..	..	.....	.....	No	.....
25	43	Male	Married	..	..	.....	.....	Yes	.....
26	25	Male	.....	..	..	.....	.....	No	Suspected lesion; gall-bladder infection
27	43	Female	Widow	2	2	.....	.....	No	Negative for stones
28	45	Female	Married	5	..	Influenza twice	.....	No	.....
29	39	Female	Married	10	..	.....	.....	No	.....
30	47	Female	Married	6	2	Typhoid	.....	Yes	.....
31	43	Female	Married	..	4	Diabetes for 10 years	.....	No	Negative
32	40	Female	Married	2	..	.....	.....	Yes	.....
33	39	Female	Married	8	1	.....	.....	No	.....
34	41	Female	Married	5	1	.....	.....	Yes	Pathological gall bladder and enlarged liver
35	56	Female	Married	..	..	.....	.....	No	.....
36	56	Female	Married	9	..	.....	.....	No	.....
37	44	Female	Married	6	3	Chills and fever when a child	.....	No	.....
38	26	Female	Married	1	..	.....	.....	No	Negative for stones
39	40	Female	Married	8	4	.....	Cholecystotomy 5 years ago	Yes	.....
40	44	Female	Married	8	..	Pneumonia	.....	Yes	Pathological gall bladder
41	46	Female	Married	5	..	Typhoid; gastric ulcer	.....	Yes	Negative for stone
42	52	Male	Married	..	..	.....	.....	Yes	.....
43	22	Female	Married	1	1	Typhoid	.....	No	Shadows, probably gall stones
44	22	Female	Married	1	..	.....	.....	Yes	Shadows in gall bladder region about 3 inches long
45	50	Female	Married	3	..	.....	.....	No	.....
46	42	Female	Married	7	..	.....	.....	Yes	Negative
47	45	Female	Married	..	1	.....	Laparotomy 15 years ago	Yes	.....
48	58	Female	Married	..	..	.....	.....	No	.....
49	27	Female	Married	..	..	Typhoid	.....	No	Negative
50	37	Female	Married	4	..	.....	.....	No	.....
51	52	Female	Married	..	..	.....	.....	No	Shadow suggestive of gall stone
52	36	Female	Married	6	..	.....	.....	No	.....
53	31	Male	Married	..	..	Malarial fever	.....	Yes	.....
54	27	Female	Married	1	..	Catarrh of stomach	.....	No	Negative for gall stones
55	28	Female	Married	2	..	Influenza	.....	No	Negative for gall stones
56	34	Female	Married	..	..	.....	.....	Yes	.....
57	32	Male	Married	..	..	.....	.....	No	Negative for gall stones
58	40	Female	Married	3	..	Blood poison 17 years ago	.....	Yes	Negative for gall stones

Case No.	Diagnosis	Operation	Findings at operation	Stay in Hospital
1	Cholecystitis; adhesions between gall bladder and omentum.	Drainage of G. B.	No stones found	1 month
2	Chronic cholecystitis with cholelithiasis	Cholecystectomy	Walls markedly fibrotic, calculi found.	21 days.
3	Cholecystitis; appendicitis	Appendectomy Cholecystectomy	G. B. adherent to transverse colon and second part of duodenum. No pathological report.	Died in 3 days.
4	Cholelithiasis and cholecystitis	Cholecystectomy	G. B. thick, soft, spongy. 2 cholesterol stones DCC thickened but no stones.	42 days.
5	Cholelithiasis and cholecystitis	Cholecystectomy	Many stones.	27 days.
6	Cholelithiasis, stone in common duct.	Cholecystectomy	Adhesions. Extra-vesical mass of small stones. Friedlander's bacillus in cultures from G. B.	1 month.
7	Cholelithiasis and cholecystitis	Appendectomy Drainage of G. B.	G. B. filled with bile and mucus. Several black stones resembling shot. None in ducts.	26 days.
8	Cholelithiasis; cholecystitis	Cholecystectomy	Many stones, brownish and faceted.	18 days.
9	Cholecystitis and cholelithiasis	Drainage of G. B.	2 large mulberry-like stones.	20 days.
10	Cholelithiasis and acute cholecystitis	Cholecystectomy	G. B. greatly distended. Many calculi from pea to marble size.	20 days.
11	Cholecystitis, cholelithiasis, chronic appendicitis	Cholecystectomy Appendectomy	G. B. contained dark green, thick fluid. Strawberry in type. Many small stones.	22 days.
12	Cholelithiasis, acute gangrenous cholecystitis, myocarditis	Drainage of G. B.	G. B. greatly distended gangrenous and green. Fluid escaped under tension. Red stones.	9 days.
13	Cholecystitis and cholelithiasis	Cholecystectomy	G. B. large and fluctuating. Contained mucoid material. 3 large stones.	50 days.
14	Cholecystitis	Cholecystectomy	G. B. enlarged, swollen, inflamed, ruptured on mild palpation. Two stones size of hazel nuts.	1 month.
15	Cholecystitis and cholelithiasis	Cholecystectomy	Adhesions to transverse colon and liver. White and extremely hard. Filled with faceted stones.	19 days.
16	Acute cholecystitis and cholelithiasis; acute cardiac dilatation	Drainage of G. B.	G. B. fat and distended, large. Contained dark greenish fluid. 20 stones, some pea size.	Died on 2nd day
17	Cholecystitis	Cholecystectomy	Mulberry shaped stone size of walnut and 5 others down to pea size.	37 days.
18	Cholecystitis; cholelithiasis	Drainage of G. B.	G. B. high and small. Contained thick, viscid dark fluid. One stone size of marble.	21 days.
19	Purulent cholecystitis, cholelithiasis	Drainage of G. B.	Size of tangerine containing pus. Many stones of various sizes and shape. G. B. greatly thickened.	27 days.
20	Cholecystitis; cholelithiasis	Drainage of G. B.	Bound down by adhesions. Walls greatly thickened. Dark green thick fluid aspirated. Many stones.	25 days.
21	Cholecystitis and pericholecystitis; cholelithiasis chronic peritonitis	Drainage of G. B.	Bound down by adhesions. Greatly thickened. Many faceted stones, various size and shape.	23 days.
22	Chronic appendicitis; pericholecystitis	Appendectomy	Adhesions. Small, soft, easily emptied.	16 days.
23	Cholelithiasis; cholecystitis	Cholecystectomy	G. B. enlarged, very red in color. Many small yellow stones, faceted.	28 days.
24	Cholelithiasis	Drainage of G. B.	Greatly distended, surface covered with thick fibrinous exudate. One calculus mouth Cyst. D.	23 days.
25	Cholecystitis, chronic appendicitis	Drainage G. B. Appendectomy	G. B. filled with fluid. No stones found.	19 days.
26	Appendicitis and cholecystitis	Appendectomy	Small, normal appearance. No stone found.	24 days.
27	Cholecystitis	Drainage of G. B. Cholecystectomy	Numerous small stones, 3 irregular dark green stones. All vessels of wall distended, blood.	1 month
28	Chronic cholecystitis and chronic appendicitis	Drainage G. B. Appendectomy	G. B. thickened, bile pathological. Number of small stones.	27 days.
29	Acute cholecystitis	Cholecystectomy	G. B. distended, covered with omentum.	27 days.
30	Cholecystitis	Cholecystectomy	Walls thick, hyperemic. 6 faceted stones in Cystic duct.	19 days.
31	Chronic cholecystitis	Cholecystectomy	Walls thickened, filled with stones.	1 month.
32	Chronic cholecystitis, cholelithiasis	G. B. drained out	No stone palpable. Serosa yellowish green stones of moderate size. Serosa discolored.	19 days.
33	Cholecystitis, chronic appendicitis; ventral hernia	Ventral herniotomy Appendectomy; Drainage G. B. Cholecystectomy	Normal size, walls markedly thickened. No stones. Golden brown bile aspirated.	25 days.
34	Cholecystitis	Cholecystectomy	Distended, not easily emptied. Nile green bile aspirated.	20 days.
35	Subacute cholecystitis	Cholecystectomy	Thickened and distended. No stones pal. Bile thick, black, contained sand. Strawberry G. B.	18 days.
36	Cholecystitis; twisted ovarian cyst	Tumor removed Drainage of G. B.	About 50 stones, light yellow, pea sized.	21 days.
37	Cholecystitis	Drainage of G. B.	Adhesions. Partly obliterated and white. Contained sand-like material.	23 days.
38	Cholelithiasis	Drainage of G. B. Appendectomy	Slight inflammatory changes, contained thick dark bile. No stones found.	19 days
39	Cholecystitis	Cholecystectomy	Adhesions, walls thickened.	1 month.
40	Chronic cholecystitis and cholelithiasis	Cholecystectomy	Enlarged and hard. Hundreds of small stones scraped out. Stones ulcerated into DCC.	19 days.
41	Cholecystitis	Appendectomy Drainage of G. B.	Thickened. Contained black, tenacious bile. No stones.	14 days.
42	Cholelithiasis	Drainage of G. B.	Adherent to abdominal wall. Contained brown mucoid material. Two stones size marbles.	25 days.
43	Cholelithiasis	Drainage of G. B.	Distended, numerous stones.	25 days.
44	Cholelithiasis	Drainage of G. B.	Moderately distended, contained calculi.	30 days.
45	Cholelithiasis and ventral hernia	Drainage of G. B. Herniotomy	G. B. slightly distended. One large stone.	3½ months.
46	Cholelithiasis; common duct stone	Drainage of G. B.	No stones in G. B. many small ones in DCC.	Died 2 weeks later, hemorrh.
47	Cholelithiasis and common duct stone	Drainage of DCC Cholelithiotomy	G. B. much thickened, not distended. 1 round stone. Stone size ripe olive in DCC.	1½ months.
48	Cholelithiasis	Cholecystectomy	Muscle tissue atrophic. Stones (?)	17 days.
49	Acute cholelithiasis	Drainage of G. B.	One large stone, marble-sized found.	2 months.
50	Cholelithiasis	Cholecystectomy Drainage of DCC	Omentum adherent to G. B. one small soft stone. G. B. much thickened. Several small soft stones in DCC.	2 months.
51	?	Drainage of G. B.	Distended, stone size of olive.	20 days.
52	Cholelithiasis	Drainage of G. B.	Considerably distended. Several large faceted stones, one firmly lodged in pocket of Cyst. duct.	23 days.
53	Cholelithiasis	Drainage of G. B.	Enlarged, congested, thick walled. Several large stones in G. B. at neck and in DCC. Tarry bile.	34 days.
54	?	Drainage G. B.	Thickened, not normal in color. No stones.	1½ months.
55	Cholecystitis with chronic appendicitis	Drainage G. B. Appendectomy	No stones.	37 days.
56	Cholecystitis	Drainage of G. B.	G. B. distended, large. Black bile aspirated.	2½ months.
57	?	Appendectomy Drainage of G. B.	No stones	43 days.
58	Cholecystitis; chronic appendicitis	Drainage G. B. Appendectomy	Contained greenish brown fluid, no stones.	21 days.

Case No.	Age	Sex	Civil State	Obstetrical No. Children	History Miscarriages	History of previous Infection	Previous Operations	Jaundiced	X-ray Findings
59	40	Female	Married	3	..	.....	.....	Yes	.....
60	55	Female	Married	..	..	.....	.....	No	.....
61	40	Female	Married	7	..	Typhoid—puerperal	.....	Yes	.....
62	59	Female	Married	5	2	sepsis Typhoid	.....	Yes	.....
63	38	Female	Married	4	..	.....	Appendectomy 10 years ago	Yes	Stones found
64	32	Female	Married	1 stillborn	..	.....	.....	No	Negative
65	37	Female	Married	4—1 stillborn	1	.....	.....	No	.....
66	38	Female	Married	3	8 induced abortions	.....	Hysterectomy	Yes	.....
67	37	Female	Widow	1	2	Influenza	.....	No	Negative
68	33	Female	Married	3	..	.....	Appendectomy 7 years ago	No	Negative
69	42	Female	Married	8	2	.....	.....	No	.....
70	65	Female	Married	7	..	.....	.....	Yes	.....
71	35	Male	.....	..	..	.....	.....	Yes	.....
72	55	Female	Married	8	1	Tuberculosis	.....	No	.....
73	48	Male	Married	..	..	.....	.....	No	.....
74	28	Female	Married	1	..	.....	Gynec. operation 4 years ago	No	.....
75	40	Male	.....	..	..	Typhoid; venereal	.....	No	.....
76	29	Female	Married	3	..	.....	.....	No	Negative
77	23	Female	Married	1	..	.....	.....	No	.....
78	48	Female	Married	7	3	.....	.....	Yes	.....
79	43	Female	Married	2	2	Venereal (?)	.....	No	Negative
80	40	Female	Married	8	..	.....	.....	No	.....
81	22	Female	Single	..	..	.....	.....	No	.....
82	28	Female	Married	3	2	Typhoid	.....	No	.....
83	33	Male	.....	..	..	Typhoid	.....	No	.....
84	46	Female	Married	5	..	.....	.....	No	.....
85	38	Female	Married	..	..	.....	.....	No	.....

In his surgical clinic he found but one case among 15,000 patients and this patient was not a native of East Indies, while there was not a single instance among the 40,000 out-patients. At the hospital at Lourabaja there were only 7 cases among 67,500 patients. In 1914 throughout the whole of Java there were only 3 cases of gall-stones among 58,021 patients. The cholesterol content of the blood of the natives is low. 3. In conditions in which a physiologic hypercholesterinemia occurs, such as in pregnancy, stones are most commonly formed. In the case of groups one and two the cholesterol content of the blood seems to depend on the cholesterol content of the customary food of the people. Rothschild and Wilensky³ have confirmed this observation by producing hypercholesterinemia in animals by feeding an excess of cholesterol bodies in the food. Heves says that the presence of a rather definite quantity of cholesterol in the blood under normal conditions has been established. He places it at .0012 to .0018 grams in 1 c. m. of serum. The amount is definitely increased during pregnancy, convalescence from typhoid fever, progressive arteriosclerosis, chronic nephritis, obstructive jaundice and probably in obesity and diabetes. Reimann and Majoun state that cholesterol increases the body fat with increasing age and persons

over 40 give a higher reading than the younger.

Binet⁴ is also of the opinion that the cholesterol content of the blood is a factor in the production of gall-stones. He further believes that the high cholesterol content of the blood at puberty is responsible for gall-stone formation later in life. In 43.9 per cent of his cases of gall-stones in women the first signs of abnormal conditions in the biliary apparatus were noted during puberty.

ANOMALIES

Quoted by Neff—Schachuer writing on anomalies says, there have been reported 5 cases of double gall-bladder each with its own cystic duct, one of bi-lobed gall-bladder, and one of diverticulum communicating with the cavity. These latter may be congenital or inflammatory. One case of congenital hour glass gall-bladder has been recorded and 16 cases of intra-hepatic gall-bladder, mostly in infants. There are 14 cases in which the gall-bladder has been found to the left of the falciform ligament, 11 of transposition of the viscera, and 8 cases of floating gall-bladder, each of which had a distinct mesentery and a wide range of mobility. C. H. Mayo has found in the literature 20 cases of congenital absence of the gall-bladder. I, personally, have found in a series of about 150 cases, one case of

Case No.	Diagnosis	Operation	Findings at operation	Stay in Hospital
59	Cholecystitis	Drainage of G. B.	G. B. bound down by adhesions. No stones found.	20 days.
60	Cholecystitis	Drainage of G. B. and drainage	G. B. large and thick walled, buried in adhesions.	28 days.
61	Cholelithiasis and cholecystitis	Cholecystectomy	Many fine stones found.	27 days.
62	Subcapsular cyst of liver; cholelithiasis and carcinoma of gall bladder	Drainage of G. B.	G. B. hard and necrotic. Stones in G. B.	Died 12th day.
63	Cholelithiasis	Cholecystectomy	2 hard mulberry stones found.	21 days.
64	Cholelithiasis	Drainage of G. B.	Stones found.	1 month.
65	Cholelithiasis and chronic appendicitis	Cholecystectomy	Stones found.	1 month.
66	Cholelithiasis	Drainage of G. B.	1 large stone removed.	1 month.
67	Cholelithiasis	Cholecystectomy	G. B. full of small stones.	1 month.
68	?	Cholecystectomy	Stones found.	1 month.
69	Cholecystitis; cholelithiasis	Drainage G. B.	Stones found.	1 month.
70	Cholelithiasis	Cholecystectomy	Gall bladder full of stones.	21 days.
71	Cholecystitis	Drainage of G. B.	?	Died 5th day.
72	Cholecystitis; cholelithiasis	Drainage of G. B.	1 large stone in gall bladder.	20 days.
73	Cholelithiasis and cholecystitis	Drainage of G. B.	Gall bladder bound down by adhesions. No stones.	39 days.
74	Cholecystitis	Drainage G. B.	Distended, contained thick, tenacious bile. Large number of greenish yellow faceted stones.	21 days.
75	Chronic cholecystitis and adhesions.	Drainage of G. B.	G. B. bound down by adhesions.	1 month.
76	Chronic cholecystitis and chronic appendicitis	Drainage of G. B. Appendectomy	Soft, small, few adhesions at base. Contained small amount normal bile. No stones.	22 days.
77	Chronic appendicitis and cholecystitis	Drainage of G. B. Appendectomy	Distended. No stones found.	23 days.
78	Chronic cholecystitis	Drainage of G. B. Appendectomy	No stones found.	19 days.
79	Pericholecystitis	Drainage of G. B.	No stones found.	2 months.
80	Cholecystitis	Myomectomy Drainage of G. B.	Infected G. B. Four faceted spherical dark brown stones, 1.5 cm. in diameter.	24 days.
81	Cholecystitis; chronic appendicitis; adhesions (G. B. had been drained previously)	Explor. Laparotomy Cholecystectomy	Walls slightly thickened. Bile greenish, mucosa slate colored.	43 days.
82	Cholelithiasis, acute and chronic cholecystitis	Drainage of G. B.	G. B. size of fist, omentum adherent. Large number of stones, pocket in G. B., no stones.	23 days.
83	Chronic cholecystitis and acute non-suppurative appendicitis	Explor. Laparotomy Drainage of G. B.	G. B. bound down by adhesions of short standing.	20 days.
84	Gangrenous cholecystitis with cholelithiasis	Drainage of G. B.	Distended, area gangrene at tip, containing green bile and gritty sandy substance. 3 large and many small calculi.	1 month.
85	Acute suppurative cholecystitis	Drainage of G. B. Appendectomy	G. B. thickened, small and contracted. Contained many small stones.	4 months.

congenital absence of the gall-bladder, two cases where the gall-bladder had a distinct mesentery of its own. One of the latter I operated on three or four weeks ago, and in addition to its own mesentery it was a bi-lobed gall-bladder.

DIAGNOSIS

The diagnosis of gall-bladder disease is sometimes very difficult. Frequently the patient will have no symptoms directly referable to the gall-bladder, but will complain of recurrent attacks of "indigestion" or of some variety of stomach disturbance. Enriquez, Binet and Durand⁵ in differentiating between stomach and gall-bladder crises say that a history of diarrhea alternating with constipation, especially diarrhea after meals, suggests a biliary origin rather than an ulcer; that nausea on waking and sensations like those of seasickness are characteristic of irritation of the peritoneum around an inflamed gall-bladder or appendix; and that in about two-thirds of the cases these attacks develop at night and the pain is more severe than ulcer pain. They further say that pressure along a line upward from a point midway between the umbilicus and the ninth right costal cartilage is painful with gall-bladder disease, while pressure along a line downward does not elicit pain. With duodenal ulcer

the reverse occurs. Two of our patients gave a history of nausea and vomiting on arising in the morning. Seven gave a history of pain after eating accompanied by nausea, vomiting and belching of gas. Six patients had had the appendix removed previously.

Kelling⁶ is of the opinion that the passage of infectious agents from the bowel to the liver by way of the venous and lymphatic systems and their elimination through the bile explains the frequent association of cholelithiasis, duodenal ulcer and appendicitis. In fourteen of our patients the appendix was involved in the pathologic process, being either thickened and inflamed or bound down by adhesions.

Ramond⁷ says that a painful point in the right sternocleidomastoid fossa is practically constant with cholelithiasis, but in the left fossa it is a sign of stomach or duodenal disease. With liver disease and gall-stones the vesicular murmur on the right side is diminished, while it is found normal on the left side. Morphine relieves the pain of gall-stones, atropine the pain of dyspepsia.

Meltzer and Lyon have devised a method of examining the bile by duodenal aspiration for the purpose of diagnosing gall-bladder disease. The method is now being tried out rather extensively with questionable satisfaction.

Roentgenologic Diagnosis—The value of the x-ray as a method of diagnosis in gall-bladder disease cannot be estimated from a study of these cases for the reason that many of the patients were operated upon before roentgenology became one of the routine aids to diagnosis. Twenty-seven patients were so examined. In nine the x-ray was negative but operation revealed the presence of stones in the gall-bladder; in six positive x-ray findings were corroborated at operation; in one x-ray examination was negative but at operation stones were found in the common duct but not in the gall-bladder; in two the x-ray diagnosis was a suspected gall-bladder infection—at operation infection was found but no stones in one, and in the other neither infection or stones; in nine x-ray was negative for stone and no stones were revealed at operation. George, Leonard and O'Brien⁸ believe that with proper technic gall-stones can be demonstrated with the x-ray whenever present. Stones containing calcium may be demonstrated with ease, the so-called soft stones with care. They further believe that only pathologic gall-gladders can be demonstrated with the x-ray. By "pathologic" they mean either that the walls of the gall-bladder are thickened or that the bile content is of greater density than normal, or greater in quantity, or it contains stones or foreign material of some sort.

Since the presentation of this paper I have operated upon approximately 80 additional cases, amongst which in the last three months three cases with cholelithiasis were under the age of twenty, and the technic of Dr. Robert Arons, of the Michael Reese Hospital Röntgenological Laboratory was so perfected as to show about 80 per cent of positive findings verified by operation, whereas he does not commit himself to demonstrate gall-stones except where most apparent his deductions from the appearance of a gall-bladder seat in the duodenum, stomach antrum and rarely in the hepatic flexure and a visualized gall-bladder has in a great percentage of cases been verified by pathologic findings at operation.

OPERATION

In 53 patients the gall-bladder was drained; in thirty-one it was removed; and in 7 choledochotomy; in one patient the gall-bladder was found to be normal so nothing was done.

Common Duct Complications—In Case No. 4

the common duct was thickened sufficiently to warrant exploration. It was incised and a probe passed into the duodenum and into the hepatic duct. No stones were found. The common duct was drained. In Case No. 6 palpation of the common duct revealed the head of the pancreas somewhat enlarged with a stone imbedded. Dissection proved the stone to be outside the duct in the tissues surrounding its walls. In Case No. 40 the common duct was enlarged and the stones in the gall-bladder seemed to have ulcerated into it. A small rubber catheter was placed in the common duct. In Case No. 46 many small stones were removed from the duct and drainage inserted. In Case No. 47 a stone the size of a ripe olive was removed from the common duct and drainage inserted. In Case No. 50 a great quantity of muco-pus escaped on incision of the common duct. In Case No. 53 one large stone was removed from the common duct. In Cases 40, 46, 47, and 53 the stones in the common duct were evidently producing obstruction, as these patients were distinctly jaundiced.

Gangrene—In two cases evidence of gangrene was found. In Case No. 12 the mucosa of the gall-bladder was gangrenous and ulcerated and in Case No. 23 the walls of the gall-bladder were enormously thickened, dark, hemorrhagic and very friable. The mucosa was deeply injected and gangrenous in spots. In both cases stones were found in the gall-bladder.

Perforation of the Gall-Bladder—Perforation of the gall-bladder occurred in one case, No. 50. The omentum was adherent to the gall-bladder throughout its entire surface and on severing the adhesions the gall-bladder was found to be perforated with a small, soft stone at the site of perforation. Incision of the gall-bladder was followed by the escape of a large amount of muco-pus.

Strawberry Gall-Bladder—The typical strawberry gall-bladder as described by MacCarty was found in two cases, Nos. 11 and 35.

Normal Gall-Bladder—In Case No. 22 the gall-bladder was apparently normal. It was small, soft and easily emptied, with adhesions binding it to the transverse colon. The adhesions were severed and ligated but no attempt made to drain the gall-bladder. In Case No. 26 the gall-bladder was small, easily emptied and normal in appearance notwithstanding that the x-ray showed a suspected lesion and the clinical diagnosis was

gall-bladder infection. In this case the gall-bladder was drained.

Liver Complications—In one case, No. 34, the right lobe of the liver extended downward forming a typical corset liver with the gall-bladder lying between the two lobes.

Secondary Operations—Case No. 39 had a cholecystotomy performed five years previously. For two months patient was relieved, but at the end of that time the pain in the right side, accompanied by nausea, jaundice, chills, anorexia, headaches, and belching returned and continued until second operation. At this operation many adhesions were found between the anterior abdominal wall, liver and gall-bladder. There were no stones in either the gall-bladder or bile ducts. The gall-bladder was removed.

Neoplasms—In Case No. 62 the gall-bladder was found to be necrotic and to contain stones. The lower border of the liver was full of buckshot nodules. The stones were removed and the gall-bladder drained. A piece of tissue was removed for pathologic examination and reported to be a carcinoma of the gall-bladder. The patient died on the twelfth day following operation.

TECHNIQUE

Preliminary preparation is as in general surgical cases regarding careful urine, blood, stool, blood pressure and general physical examination. I have used of late the intravenous injection of 5 c.c. of a sterile 10 per cent solution of calcium chloride, as recommended by Dr. Waltman Walters, and have found the same very advantageous in the cholemic cases with intense jaundice reducing the coagulation time to half after daily injections for three or four days. I have also found that the injection of morphin, gr. 1-6, and atropin, gr. 1-120, one-half hour preliminary to the administration of the anesthetic, gas-ether, gives more marked relaxation, less mucus formation, and necessitates the use of less anesthetic.

Regarding the position of the patient, I have placed them in the reversed Trendelenburg position or at an angle of 45 degrees, using at the same time the liver elevation rest. This latter has been of great aid to me, firstly, giving a much better exposure of the liver and bile tracts, and also a falling away from the site of operation of the abdominal viscera. It seems that in this position the weight of the liver has a tendency to bring the same much lower and allow of much better exposure of the gall-bladder and the bile

tracts. This position has been tried by my colleagues at the Michael Reese Hospital and has been indorsed by a number of them.

Regarding the position described above I wish to state that Dr. Emile Holman, of the Peter Bent Brigham Hospital, of Boston, Massachusetts, published this position in the Journal of the American Medical Association March 29, 1924, Vol. 82, No. 13, p. 1045, which is about 18 months after this paper was read, but due to the lateness of this publication he did not refer to my priority.

After packing away the general abdominal cavity a thorough examination is made of the gall-bladder and its ducts as well as of the stomach and duodenum. When the removal of the gall-bladder has been decided upon I have found that instead of applying two clamps to the cystic duct and artery and cutting between, the passage of a sharp aneurysm needle threaded with No. 1 chromic catgut as low down towards the common duct as possible and around both the cystic artery and duct is of great value to me in the subsequent work of removing the gall-bladder. Above this ligature is applied a curved clamp and when the removal is made from below upwards, an incision is made between the ligature and the clamp; when from above downwards, the gall-bladder serosa is incised and the gall-bladder pulled out by sponge dissection to the point of the clamp and ligature around the cystic artery and duct and then the same is divided through between clamp and ligature.

To the cut end of the cystic duct is attached a small rubber tube, whose bifurcated end straddles the cystic duct. The raw bed of the site of the gall-bladder is united by a running suture of plain No. 1 catgut and a Bullet drain laid along its course. In this connection I wish to say that I am not yet prepared to take the chances, or rather allow the patient to take the chances of having the abdomen closed after such procedure. I fully agree with my friend, Dr. Moskowitz of New York City, that drainage in such cases is the safest procedure.

Regarding gall-bladder drainage in cholecystotomy, I seldom now tack the gall-bladder to the parietal peritoneum but allow the same to fall back in its natural position, although many operators still do attach the same to the abdominal wall. In this connection it is interesting to note how few cases one sees today of persistent

biliary fistulae such as we formerly saw and which were undoubtedly due to anchoring the gall-bladder high in the abdominal wound or to imperfect exploration of the biliary tracts, such as leaving a stone in the common duct, etc. The high anchoring of the gall-bladder prevented the soft structures from falling over the open gall-bladder wound when the tube was removed or contact of mucosa and mucosa which never allows of a healing.

In draining a gall-bladder I generally use a double row of purse-string sutures around my tube and a rubber glove as the bile receptacle. The latter I find preferable to the old time siphonage drain which prevents the patient from turning about and exerts a pull on the gall-bladder tube which has a tendency to dislodge the same.

MORTALITY

Of the 85 patients, five died, a mortality of 5.88 per cent. One died of secondary hemorrhage and shock on the third postoperative day; one of acute cardiac dilatation on the second day; one of postoperative hemorrhage two weeks after operation; one, a carcinoma of the gall-bladder, died on the twelfth day, and one died on the fifth day, probably from shock. He had been in the medical ward of the hospital for nine months before operation and had also spent some time in a tuberculosis sanitarium.

CONCLUSIONS

1. From a study of these cases it is apparent that gall-bladder disease is more common in women, occurring more frequently during the fourth and fifth decades of life.

2. That a carefully taken history and accurate physical examination will lead to earlier treatment at a time when the risk is comparatively small.

3. Once a diagnosis of gall-bladder disease is made the patient should be submitted to operative treatment at the earliest possible moment. It is only in this way that the mortality rate both from cholecystotomy and cholecystectomy will be reduced.

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THE ILLINOIS HOSPITAL ASSOCIATION, ITS AIMS, ACCOMPLISHMENTS AND RELATION TO THE MEDICAL FRATERNITY *

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CHICAGO

The Illinois Hospital association was organized in 1918. The only previous hospital association in the state was the Chicago Hospital association, which was unable to function completely on account of its inability to act as an organization of hospital directors, the membership being made up of mixed hospital employees. In the Illinois Hospital association the membership is vested in the hospital which is represented at meetings by a member of the Board of Trustees or other representative of the hospital having authority to speak and act for his institution in all matters relating thereto.

It had been apparent for some time prior to the organization of this association that not only was legislation being enacted which was hampering hospitals in their work, but that organizations of employees, outside organizations with no direct connection, but with a self-constituted authority, and that even private individuals were attempting to secure the passage of legislation, or the adoption of regulations under existing laws, which were not only contrary to the best interests of the care of the sick, but which also constituted meddlesome interference with the practice of medicine in hospitals. This was occurring not only in Illinois but in other states.

In the belief that an association of hospital trustees could better consider and take action in these matters, and that such matters should be regulated, if at all, by the persons legally, financially, and morally responsible for the hospital care of the sick, the Illinois Hospital association was formed and has had a healthy growth. No other state has hospital association so organized, nor one which has done such effective work.

The object of the association is to secure the

*Address before Chicago Medical Society, Feb. 22, 1924.

welfare of the sick. It seeks to work and has worked in conjunction with the Chicago Medical Society, and the State Medical Society and its branches, and with the municipal and state health organizations and licensing bodies. It is not opposed to any reasonable supervision or regulation of the care of the sick in hospitals by properly constituted authority, or by those competent to so supervise and regulate this activity.

While Chicago has the largest number of hospitals of any city in the state, and while apparently our center of activity is located here, yet our interest and chief concern is for the smaller hospitals, not only in Chicago but throughout the state.

Certainly this is borne out by our activity in legislative affairs—for practically every measure we have successfully opposed would have hampered the small and less well endowed institutions throughout the state to a greater degree than the Chicago hospitals.

It was also believed that such an organization could develop a greater interest by individual members of Boards of Trustees in the work of their own institution by bringing to their attention many details of administrative problems ordinarily not brought up for discussion in Board meetings, and that hospitals of the state generally could be stimulated to increased efficiency by exchange of experiences in the handling of such problems.

We also believe that practically every hospital in the state is furnishing excellent care and treatment to its patients, and that the facilities for such care and treatment are in most cases adequate for the demands of the community.

No attempt has been made by this association to standardize hospitals or to suggest standardization of any kind.

In connection with the administration of the medical practice act a few years ago, this association acting with the Chicago and State Medical Societies and other organizations, did participate in a survey of the hospitals of the state. No attempt at standardization was made, but constructive suggestions for improvement of certain conditions in some institutions were made. Obviously a so-called standard for a hospital in a large city could not be reasonably applied to a similar institution in a remote community.

Nor should the rural hospital be discriminated

against by reason of its inability to meet such a standard. Your rural hospital in this case is probably of much greater value and is doing a greater good for its people than the city institution.

I am of the opinion that we are suffering in this day from an overdose of so-called standardization, which to me means nothing in hospital work. Standardization implies a fixed mathematical or mechanical condition and effect—a hospital may be standardized so far as its equipment is concerned. Efficient and humane care of the sick cannot be standardized, nor can it be measured in any way until the best service possible has been furnished, the best possible result obtained and the patient has been returned to his normal vocation in the shortest possible time.

I do not believe that an elaborate equipment of scientific apparatus, ponderous and useless case records containing information of a confidential nature and of no value to any one in connection with the condition for which the patient is being treated, special rooms for their storage and specialized help for their care and classification, specialists in everything and for everything are absolutely necessary to good care of the sick.

Neither do I believe that hospitals not possessing all these things should be practically black-listed, or classified unfavorably.

We do believe that these institutions should have adequate scientific apparatus and facilities to do the routine work required in their communities, that sufficient records should be kept to indicate the condition for which the patient was treated, and the treatment and progress of the case, and that sufficient experienced professional and vocational help should be maintained or at least be available to meet the demands of the community.

The primary function of the hospital is to care for the sick, and both the charity and the pay patient is entitled to the best care the institution can give, but in no case must this be subordinated to any other activity.

Our accomplishments have been largely those connected with proposed legislation. Each session of the Legislature has had its bills affecting the care of the sick in hospitals. Those interfering with this function have been opposed; others have been favored. In this work we have acted both independently and also in conjunction and co-operation with the medical societies and other

interested organizations. May I cite briefly some of the bills encountered during the last session of the legislature.

ILLINOIS HOSPITAL ASSOCIATION.

OFFICE OF THE SECRETARY
ENGLEWOOD HOSPITAL

CHICAGO

February 16, 1924.

SPECIAL BULLETIN

In the session of the Illinois Legislature which adjourned June 30 we were confronted with a number of bills which would have seriously hampered every hospital in the State in its efforts to care for the sick.

The Association was successful in all of its efforts in combating unfavorable legislation, working both independently and in conjunction with other organizations.

Among the important measures which would have affected hospitals were the following:

Senate Bill No. 37. Anti-Narcotic Bill. Introduced by Senator Carlson. Increased the burden of hospitals and physicians in handling and dispensing narcotic drugs without any advantage to the State or Federal government. When this was explained to Senator Carlson he agreed to the suppression of the bill in committee, which was done.

House Bill No. 190. Regulating the care and treatment of patients in hospitals. An extremely arbitrary regulatory measure. Would have subjected hospitals and all their patients to unnecessary annoyance, supervision, inspection and interference. Defeated in committee.

Senate Bill No. 16. Women's 8-hour bill. Tabled in committee.

House Bill No. 88. Women's 8-hour bill. Defeated, after amendment, on motion to pass in Senate, consideration postponed, and finally stricken from calendar.

House Bills No. 200 and 390. 6-day week bills. Provided for one full day's rest in seven for all employees (half days not permitted) and no exemptions. Tabled in committee and in Senate.

Senate Bill No. 99. Provided for a Commission to fix the hours of female workers. Tabled in committee.

House Bill No. 655. Empowering cities to license, tax and regulate all lines of business. Passed by the Legislature after a bitter fight, but after a hearing was vetoed by the Governor.

House Bill No. 291. For the repeal of an Act passed in 1919 which required annual reports to the Department of Labor of the number of employees and their hours of work. (This law not generally known to hospitals and hence probably not generally observed.) Repeal bill passed.

We believe there will be a determined effort to pass some of these bills again during the next session of the Legislature, and that other measures attempting to regulate the care of the sick will be introduced.

Our past experience indicates that systematic work

brings results and that the effectiveness of our organization is the result of the fact that we speak for the Board of Trustees of hospitals throughout the State, whose sole interests are the care of the sick, the training of nurses and the welfare of their employes, with no possibility of selfish financial profit to themselves.

This work has required the presence of one or more members of this Association in Springfield from time to time during the Legislative session, the scanning of all bills introduced and much detail work by your officers and executive committee. No salaries are paid to any of the officers or members of the Association for this work, and, in addition to the valuable time spent, they frequently bear all or part of the expense incident to this service.

We desire to express our appreciation for the co-operation and assistance rendered by our members throughout the States. The response to our request for assistance on special occasions has been prompt and effective—and this is essential to and has been responsible, in a large measure, for our success.

In order that the officers and active members of the Association may be encouraged to renewed effort and that we may have the moral support of a larger active membership, it is essential that every hospital in the State, regardless of size, signify their approval of our work by joining this Association.

Enroll your hospital at once.

J. C. Stubbs, M.D., President.

E. T. Olsen, M.D., Secretary.

We have also from time to time, by suggestion, been able to assist institutions in solving administrative problems of various kinds.

Our relation to the medical fraternity should be obvious. The active membership of this association is composed of members of Boards of Trustees and staffs of hospitals. These men and women are legally and financially responsible for the care of the sick in their respective hospitals, and, with no selfish purpose to serve, have the power to determine the conditions under which, as well as the quality and quantity of care your patients shall receive. The Board of Trustees of your hospital is anxious to furnish the best service possible. Through this association they have the means of combating (collectively) encroachment upon the rights and privileges of both the patient and the doctor. May I stress one other essential: a high degree of co-operation, both in spirit and in fact, by the doctor, whether staff member or not, with the administrators of the hospital.

In conclusion—this Association has already done work of untold value to the hospitals and medical profession of this State. All bills presented in the legislature affecting either have

been closely scrutinized. Our officers and a few members have given freely of their time, energy and even substance in this work, and have neither asked nor received anything in return.

Our membership should include every hospital in the State, but the same apathy which marks the lack of enrollment in medical societies also applies to hospitals, with this possible difference: we are able to reach some active individual connected with almost every institution, and a call for assistance on a matter affecting the care of the sick has usually met with prompt response.

Each legislative session sees a few more hospitals added to our list and the number of active workers increased. Eventually, and we trust this joint meeting may act as a decided stimulus, we hope to have all the hospitals of Illinois organized as a unit in the interest of the care of the sick.

HIGH BLOOD PRESSURE

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By high blood pressure is meant a systolic pressure that is 20 mm. Hg. or more above the average for the age or a diastolic pressure that exceeds 100 mm. Hg. We are indebted to life insurance companies for emphasizing the importance of small increments in blood pressure as well as for establishing the normal limits of variation in health. The studies that have been made prior to 1923 have given blood pressure averages for years of age without reference to height or weight. Recently, Brandreth Symonds¹ of the Mutual Life Insurance Company of New York, has published tables which show the relation of age, pressure and build.

The build table, which is divided into ten groups, is based on the average weight for each inch of height at age 37. Group 0, includes those within 5 per cent. above and 5 per cent. below the average. Group 2, those who are 15 per cent. to 25 per cent. above. Group 3, those who are 25 per cent. to 35 per cent. above. Group 4, those who are 35 per cent. to 50 per cent. above. Group 5, those who are more than 50 per cent. above the average. Group 6, includes those light weights who are 5 per cent. to 15 per cent. below the average. Group 7, those who are

15 to 25 per cent. below. Group 8, those who are 25 to 35 per cent. below. And group 9, those who are more than 35 per cent. below the average.

The following tables, which are copied directly from Dr. Symonds' article, should be read with the above figures in mind.

Table 1.

Average Systolic Pressure.

Based Upon the Examination of 150,419 Healthy Men.

Ages	(9)	(8)	(7)	(6)	(0)	(1)	(2)	(3)	(4)	(5)	All blds
15-19	114	116	120	122	123	125	126	128	130	131	123.5
20-24	117	119	121	123	123	125	126	128	130	131	124.3
25-29	117	120	121	123	124	125	126	128	130	131	124.5
30-34	118	120	121	123	124	126	127	129	131	132	125.1
35-39	118	121	122	123	124	126	127	129	131	132	125.3
40-44	119	121	123	124	126	127	129	130	132	133	126.4
45-49	121	122	125	126	127	129	131	132	134	135	128.2
50-54	123	124	126	128	130	131	133	134	136	137	130.2
55-59	126	128	129	131	133	134	137	138	139	140	133.5
60 and over	128	129	133	133	135	136	138	139	140	142	135.3

The average systolic pressures of women—based upon the examination of 11,937 healthy applicants for insurance—were found to be 1 or 2 mm. lower than those for men up to age 40. After 40 years, the systolic pressure equals that of men and may be 1 or 2 mm. higher.

Table 2.

Average Diastolic Pressure.

Based Upon the Examination of 60,733 Healthy Men.

Ages	(9)	(8)	(7)	(6)	(0)	(1)	(2)	(3)	(4)	(5)	All blds
15-19	75	76	77	78	79	80	81	82	83	84	79.5
20-24	76	77	78	79	80	81	82	83	84	85	80.5
25-29	77	78	79	80	81	82	83	84	85	86	81.5
30-34	78	79	80	80	81	83	84	85	86	87	82.3
35-39	79	80	81	81	82	84	85	86	87	88	83.3
40-44	79	80	81	82	83	85	86	87	88	89	84.0
45-49	80	81	82	83	84	86	87	87	88	89	84.7
50-54	81	82	83	85	86	87	88	88	89	90	85.9
55-59	82	83	84	86	87	88	89	89	90	90	86.8
60 and over	82	83	84	86	87	88	89	89	90	90	86.8

The diastolic pressures of 15,276 healthy women were found to be 1 mm. less than those of men up to age 40. Then, for ten years, they are about the same. At age 50 they increase and are substantially higher than those of men.

Alvarez² believes that the systolic pressure falls between ages 20 and 30 years below that found during adolescence, to rise again after age 30. He gives the average systolic pressure at age 16 years as 127 mm. and at age 30 as 118 mm.

Etiology. Blood pressure is dependent upon the activity of the heart, the resistance to the flow of blood through the vessels, the elasticity of the arteries and the quantity of blood in the system. Its maintenance is partly automatic and partly reflex. Tulgan³ believes that there is a cardio-accelerator nervous mechanism that is concerned with the maintenance of a certain level of blood pressure adequate for bodily welfare. If the cardiac nerves are cut, the blood pressure

does not drop to zero, but is maintained at a level sufficient for conditions of rest. When exertion is desired, the blood pressure is raised through reflex channels. Modification of any of the factors stated above upon which blood pressure depends, may lead to a condition of high blood pressure.

The manner in which such modification is brought about, either immediately or ultimately, can not be stated with certainty. There are a few theories, however, that deserve consideration. The frequency with which a history of cardiovascular disease in an immediate member of the family is elicited, points rather conclusively to heredity as a factor of the utmost importance.⁴ Weitz⁵ believes high blood pressure is inherited as a dominant character.

Fisk⁶ of the Life Extension Institute made a study of 1,021 cases of high blood pressure as compared with 13,335 cases of normal blood pressure and found that the principal predisposing factors were mouth infections, the excessive use of tea, coffee and alcohol, and overeating leading, with the lack of exercise, to overweight. Individuals who were 20 per cent. overweight were particularly prone to high blood pressure.

Except in its relation to weight, diet plays no part in the production of hypertension. Although it has been the practice of clinicians to exclude purin foods and reduce generally the protein intake of patients suffering from high blood pressure, Mosenthal⁷ has shown that a high protein ration has no influence on the blood pressure curve. The beneficial effects of underfeeding noted by Benedict⁸ have probably been the result of the weight reduction and not the effect of any of the food substances on the cause of the blood pressure.

There is a persistent feeling that many cases of high blood pressure are toxic in origin, the toxins exerting a vasoconstrictor action. The infection may be either focal or general, but recent infections appear to be unrelated to this condition.

During the past three years I have collected a series of 50 cases of high blood pressure in young adults. The age of the subjects ranged between 16 years and 25 years. Of this group 18 had chronically infected tonsils, 9 had had scarlet fever, 4, typhoid fever, 3 diphtheria, 3 had chronic pyorrhea, 2 had had acute rheumatism, 1, influenza. Of the remaining 10 cases, three gave

no history of past illnesses, and presented no abnormalities upon examination except the high blood pressure. One man, twenty-one years old, with a systolic blood pressure of 146 and a diastolic pressure of 100, had a root abscess. Fifteen days after the extraction of the tooth the blood pressure dropped to systolic 128, diastolic 80. Six of my series of fifty cases were found to have intermittent albuminuria without casts.

High blood pressure may be unassociated with renal disturbances or a nephritis may co-exist. Probably the same underlying cause is responsible for both the nephritis and the high blood pressure.

Many writers attribute high blood pressure to endocrine disturbances. Its frequency at the period of the menopause suggests a causal relation to ovarian function. Vipond⁹ has observed that the blood pressure of young girls increases progressively until they reach puberty. When menstruation is established, the systolic pressure falls to around 116. Engelbach¹⁰ found a systolic blood pressure of more than 160 mm. Hg. in forty-six out of five hundred endocrine cases. He concluded that dysfunction of the ductless glands was responsible for the high blood pressure because he was able to exclude all other usually assigned causes, such as renal disease, cardiovascular lesions subacute or chronic infections, obesity, etc. Boothby¹¹ calls attention to the fact that adenomatous goiter with hyperthyroidism is frequently associated with hypertension as evidenced clinically by an elevated diastolic pressure. Both systolic and the pulse pressure are also increased in order to drive the abnormally large volume of blood necessitated by the elevated metabolism through the relatively constricted periphery.

Nervous disturbances predispose to a high blood pressure through a sustained general vasoconstriction. Emotion causes rapid changes in blood pressure. The frequent insults which the vascular system of the emotionally unstable suffers must contribute to a permanently elevated blood pressure. Not long ago, I examined a dentist, age 30, of this type. After I had found a systolic pressure of 158, the dentist asked if he could read a newspaper while I made additional observations. He felt that the excitement of the examination had influenced his blood pressure. For several minutes, the blood pressure did not vary, but after about two columns of the paper

had been covered, the pressure started to fall. Within ten minutes it had become stationary at 130 mm.

Neuhof¹² reports an interesting case of irritable heart in a woman, age 52, associated with a systolic blood pressure that varied between 150 and 200. He diagnosed the case as one of pure neurosis due to fright, reflexly aggravated by hunger pains—the woman was adhering to a starvation diet. The onset of the trouble had followed the sudden death of the woman's husband who had been suffering from high blood pressure. She feared her life would end in the same manner. The emotion caused the high blood pressure. To correct this, some physician had ordered a starvation diet. Neuhof's treatment consisted of a liberal mixed diet, bromides at night, 5 grain tablets of the extract of suprarenal gland for the attacks of tachycardia, and large doses of reassurance. Within three weeks her condition was much improved and the systolic blood pressure had fallen to 130.

Pathology. Nothing is known of the early pathology of high blood pressure, but it is assumed that a functional vasoconstriction takes place. This is followed in time by a diffuse thickening of the small arteries and by atrophy and sclerosis of an occasional renal glomerulus. Persistent high blood pressure, irrespective of its cause, eventually leads to arteriosclerosis and hypertrophy of the heart. It is not unusual to find chronic nephritis, high blood pressure and degenerative arteriosclerosis in the same patient.

Symptoms. The onset is insidious and extends over a long period of time. The sufferer may be unaware of his condition until it is discovered during an examination for life insurance. Even then, he may remain symptom free for years. As the condition has its inception in youth, the advent of symptoms may be considered as ushering in the terminal stage. This does not mean however, that dissolution is necessarily imminent.

Headache, dizziness, dyspnea or epistaxis are common first complaints. The subsequent history will bring out a syndrome depending upon what organs have undergone the most marked degenerative disturbances. The cerebral symptoms are dull headache, vertigo, tinnitus aurium, blurring of vision, transient aphasia or hemiplegia and nocturnal epileptiform convulsions. In addition there is irritability, disturbed sleep, lassitude, fatigue and gastric neuroses. The

cardiac group consists of precordial distress, dyspnea on exertion, palpitation, anginoid pain and vasomotor disturbances.

Physical examination often reveals nothing besides the hypertension. There may or may not be cardiac enlargement. The palpable arteries are often soft and straight. With long standing high pressure they become thickened and slightly tortuous. There is a definite ophthalmoscopic picture that is characteristic of elevation of blood pressure. A few hyaline casts and a trace of albumin may be found in the urine.

Prognosis. High blood pressure may be compensatory to some defect, so that the prognosis, depends more upon the condition of the myocardium, coronary arteries, cerebral vessels and renal function, than upon the blood pressure per se. But that small elevations in blood pressure increase the hazard to life is shown in the following table published by Hunter and Rogers¹³ of the New York Life Insurance Company.

Table 3.

Based on 2,838 Cases Issued Policies With An Advance in Age.

Number mm. over average systolic blood pressure for age	No. cases	Ratio of actual to expected		
		Actual deaths	Expected deaths	to expected deaths
+10 to +25 averaging +20	1307	50	34.2	146%
+26 to +35 averaging +30	1190	70	37.3	188%
+36 to +50 averaging +40	341	29	11.7	248%

Of the deaths, 33 per cent. were due to heart disease, 15 per cent. to Bright's disease, and 15 per cent. to apoplexy.

Prophylaxis. It is important to discover high blood pressure before the onset of secondary and structural changes. There should be, therefore, a periodical examination of the vascular system, and for that matter, of the entire organism. The prophylactic examination should include a search for dental caries, pyorrhea, infected tonsils and dietetic errors. A series of urine analyses and a concentration test should be made. The heart should be examined and the blood pressure taken before and after exercise. A detailed history of the emotional life and personal habits of the patient is indispensable.

The advice that is finally given must not stop with suggestions for the treatment of such obvious defects as pyorrhea, but should be extended to include the whole scope of the patient's activities. Readjustment to proper level of the various phases of daily life is essential. The man who devotes all of his thoughts and time to his business or profession and gives over no portion

of the day to exercise and play is inviting vascular decay. One must insist that such a patient develop a hobby. It makes very little difference whether that is the collection of early Chinese jades, photography, the study of fashions, gardening, or the adoption of a philanthropy. The physician might go in for modern literature; the business man for trap shooting; the mechanic, for civic reform. Whatever it is, it should increase his permeability to, and interest in, stimuli outside of the daily routine.

Although diet is not in itself a cause of high blood pressure, indiscretions in eating lead to overweight and this does predispose to hypertension. Advice regarding diet should, therefore, be given at the time of the periodical examination. Usually all that is necessary—except in the distinctly obese—is to prescribe a well balanced diet. I have found the one outlined by McCollum to be eminently satisfactory. It consists of two salads a day, one portion of greens and a quart of milk or its equivalent in dairy products. The remainder of the selection may be left to the caprice of the patient. A word of caution against the excessive use of strong tea and coffee should not be omitted.

Treatment. The scheme of treatment that is to be followed depends upon the height of the blood pressure and upon the presence of recognizable etiological factors. The cases that are most amenable to treatment are those where overweight appears to be the chief impairment. One may expect the systolic blood pressure to fall one millimeter for each pound of weight lost. In order to bring about a reduction in weight, two aims must be kept in mind. The first, is to diminish the supply of fat by restriction of food; the second is to increase the destruction of fat by proper exercise. To accomplish the first aim a dietary should be planned that is made up largely of fresh fruits, green vegetables and milk, and in which the fats, sugars and starches are limited. The protein content, however, should not be much less than 90 grams a day. The ingestion of water should be restricted. If the patient complains too bitterly of an unsatisfied appetite under this regime, he may be allowed a cup of bouillon or a bowl of clam chowder between meals.

Graduated exercise is the best method of achieving the second aim: a brisk walk after meals; climbing a flight of stairs—if the blood

pressure is not too high; golf at regular intervals and horse-back riding. The destruction of fat may also be promoted by electric light or Turkish baths once a week.

If the high blood pressure is not associated with overweight, it may be necessary to try in turn every rational therapeutic measure before a successful treatment is found. As many cases of high blood pressure are toxic in origin, one should look for oral sepsis, gastro-intestinal stasis, and for such focal infections as exist in chronically inflamed prostates, gall bladders, appendices and tonsils. Nor should the paranasal sinuses be overlooked. Recognition of such foci naturally suggests the first step to be taken in the treatment.

Crile¹⁴ feels that the correlation of high blood pressure with hyperthyroidism suggests the possibility of decreasing thyroid activity by excision of the gland in cases of high blood pressure and of myocarditis in which the only evidence of thyroid involvement, except these two symptoms, is the presence of goiter. He says: "With increasing knowledge of the relation of the thyroid gland to the adrenals and hence to variations in blood pressure, it may be that in cases of high blood pressure in which no other intermediate causative factor can be discovered such as a focal infection, disordered kidney function, etc., and in which no other evidence of increased thyroid activity exists, we shall remove the thyroid gland as a means of controlling the cardiovascular disturbance."

As the blood pressure is almost invariably increased in chronic glomerulonephritis, the treatment of this condition is frequently brought to the attention of one who is making a study of high blood pressure. This type of nephritis traces its origin usually to some persistent septic infection just as so many cases of high blood pressure do that are not associated with renal disease. The importance of eradicating focal infections is thus again emphasized. The diet in glomerulonephritis differs from the one suggested above as suitable for the reduction of high blood pressure that is associated with overweight. The protein must now be reduced to about 50 grams a day while the fats and carbohydrates are increased. Sodium chloride should be restricted and condiments prohibited. The fluid intake should range between 1,200 and 1,500 c. c. per day, because a larger amount of liquids places a burden

upon the kidneys, heart and blood vessels. Hydrotherapy, in the form of daily warm baths and a sweat bath twice a week, is useful. The baths should be followed by a cool rub, massage and several hours rest. A weekly purge with magnesium sulphate, jalap or castor oil is valuable.

When the high blood pressure is associated with subjective symptoms such as headache, dizziness, disturbed sleep, palpitation of the heart, etc., additional therapeutic measures are required. In the first place, it is absolutely necessary to inspire the patient with confidence and hope. An investigation should be made covering the details of his occupation, and if these entail great worry and haste, the hours of work must be shortened, a vacation arranged and moderate exercise in the open air prescribed. Above all, the patient must be taught to relax and to cultivate equanimity.

Sir Clifford Allbutt¹⁵ says that the best symptomatic remedy is the high frequency current, the effects of which persist for some time. I have used auto condensation in a number of cases. A detailed report will be published later. The psychic effect of this form of treatment is pronounced, but just how much credit it deserves for lowering blood pressure is problematical. It has been my practice to follow a rest period of fifteen minutes by a current of 600 milliamperes for ten to twenty minutes. At the end of that time the systolic pressure has usually fallen 10 or 15 mm. Hg. But could not this decline in the blood pressure be explained satisfactorily on the basis of the patient's emotional curve alone? Nevertheless, the treatment is valuable if it does nothing more than bring a nervous, overactive patient to the office for thirty minutes of rest and relaxation each day.

Drugs are of minor importance in the treatment of high blood pressure. Small doses of sodium iodide over a long period of time may help. Thyroid extract is valuable for patients over 60 years of age and for the obese. Corpus luteum is of course indicated at the menopause. Digitalis is useful in certain heart affections. It is never advisable to use vasodilators too early or to push them too strongly. They should be reserved, together with venesection, for an emergency.

Conclusions. From the foregoing one may conclude that a definite routine may be formulated for the management of high blood pressure: When the patient is first seen a search is insti-

tuted for foci of infection and arrangements made for their eradication. A diet is always prescribed, the purpose of which is either to correct overweight, or lessen the burden of damaged kidneys, or establish a balance in the use of fats, carbohydrates, proteins and the protective food substances. Above all, an effort is made to discover sources of emotional instability and to re-establish the patient's sense of values.

At the second and subsequent visits, auto condensation is given and the search for etiological factors continued. It is advisable to prescribe some form of medication. Perhaps desiccated thyroid will most often meet the indications. In addition, a dose of compound jalap powder or magnesium sulphate once a week, has its advantages. Judicious hydrotherapy is always a valuable adjunct.

Lastly, every hypertensive patient needs a vacation of at least a month each year, and he needs to be taught to play.

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A METHOD OF BLOOD TRANSFUSION*

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The methods of blood transfusion in common use have a number of disadvantages. Most of them require operating room technique. When patients are critically ill, a trip to the operating room is sometimes dangerous. Dissection of a vein is necessary in most methods of transfusion, and it is sometimes hard to find a donor who will submit to such an operation. There are cases in which some techniques are not applicable because of the danger of infecting the donor from a patient with septicemia. If clotting occurs where the whole amount of the transfusion is re-

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moved without citrate, the procedure is a total failure.

The following method was devised for use in medical cases, and especially in those too ill to be moved to the operating room. It is not considered a substitute for dissection methods in cases of acute anemia from hemorrhage or in shock.

The apparatus required consists of 1 to 6 100cc. Luer syringes with excentric tips. For 500cc. of blood 4 such syringes suffice as they hold from 125cc to 130cc each. Two Luer needles about 18 gauge and 6 cm. long; a 2cc Luer syringe; two pieces of light gum tubing 15 inches long for constrictors, and about 1 oz. or 2 per cent. sterile sodium citrate solution are needed.

The procedure is as follows: The apparatus is sterilized by boiling. The hands of the operator and of the assistant are cleansed as for any surgical procedure. The syringes are washed out with the sterile sodium citrate solution by drawing into them a few cubic centimeters of the solution and expelling it. The donor is placed upon a couch or a wheeled stretcher near the patient's bed. An arm of the recipient and the adjacent arm of the donor are cleansed surgically and the constrictors are applied to the upper arm to distend the veins without obliterating the pulse. One of the needles attached to the small syringe is introduced into the vein of the recipient and the constrictor is removed. This needle and syringe are held in place by the assistant. The other needle attached to a 100cc. syringe is introduced into a vein of the donor, and a syringe full of blood is withdrawn. The filled syringe is detached from the needle and handed to the assistant while with the thumb, blood is prevented from flowing from the donor's vein. The assistant detaches the small syringe from the needle which is in the recipient's vein, attaches the large syringe filled with blood, and injects the blood into the recipient's vein. While this is being done, another 100cc syringe is attached to the needle in the donor's vein and filled with blood; so that when the first blood withdrawn has been injected into the recipient, the second syringe is ready to be injected. As the second syringe is injected, a third is being withdrawn. The procedure is continued until the desired amount of blood has been transferred.

We have found the ordinary needles used much

easier to handle than the various canulae described. The use of several 100cc syringes in succession avoids the necessity for using the same syringe more than once in a transfusion, as is done when smaller syringes are used.

THE EARLY RECOGNITION AND TREATMENT OF DYNAMIC ILEUS*

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At the start it must be confessed that in dealing with dynamic ileus we are discussing a subject of which we cannot speak in terms of cut-and-dried facts, concerning which we need only marshal our forces of statistics and move gradually and smoothly from proven statements to a logical and satisfactory conclusion, thus proving, to our own satisfaction at least, the infallible truth of our reasoning. Instead of this, we have to do with a condition concerning which there is infinite speculation, but whose true mechanism and pathology is still in a hazy nebula of theory and hypothesis.

Indeed, the very variety and divergence of opinions concerning the subject, the confusion of its terminology and the inaccuracy of most of its literature, show it to be as yet, still in the stages of theorization. In reading the contributions to its literature, we find a paucity of articles bearing directly upon the subject. It is mentioned in connection with discussions on mechanical obstruction or post-operative complications. Text-books pass it by with a mere reference, yet it is one of the most serious, even though uncommon, complications of surgery.

In reviewing the literature of dynamic ileus, we find, first of all, the great confusion and inaccuracy in the use of its terminology. The phrase, dynamic ileus, is used to cover, in some instances, all forms of ileus not strictly mechanical, that is, mechanical in the sense of an actual obstructing body blocking off the lumen of the gut, either from within or without. In other cases, it is restricted to those forms which show a true spastic paralysis. However, the commonly accepted meaning of the phrase—dynamic ileus—is that of all forms of intestinal obstruction, whether paralytic or spastic, in which the obstruction is due, not to any foreign body or pres-

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sure upon the bowel, but to a condition of the intestinal wall itself in which there is failure of its contractile power to overcome resistance and consequent inadequacy of peristalsis. It is this interpretation which is used in this discussion and especially in reference to post-operative obstruction.

In studying the causes of dynamic ileus, we meet our first great stumbling-block, in so far as previous opinion gives us guidance. Many surgeons consider that the exception of a spastic paralysis, such as that due to mineral or ptomaine poisoning, all cases of true obstruction are mechanical. On the other hand, there are various authorities, such as Dr. J. B. Murphy, who have maintained that dynamic ileus is much more common than is generally supposed, and who have cited a series of cases in which laparotomy or post-mortem examination have shown no evidence whatever of infection or adhesions. Finney thinks that paralytic or dynamic ileus is probably much more common than is supposed to be the case. He reported a series of fourteen cases of paralytic ileus, all post-operative and all following operations on the appendix or pelvis. He thinks the picture in these cases of paralytic post-operative ileus to be that of a true paralysis of the sympathetic nervous system.

As to why this troublesome complication should arise following surgical operations there are a number of theories, but the best and one of the most recently accepted today is that of a disturbance in innervation, properly a true paralysis of the sympathetic system. The many reported cases of reflex intestinal obstruction following operations on the kidney, testicle or those cases following pleurisy, pneumonia or fractures of the extremities can hardly be ascribed to any other cause, the mechanism here being that of a reflex stimulation of the inhibitory nerves of the intestinal wall. Cases of interference with the circulation of the mesentery, embolism, thrombosis, or strangulation, act of course directly upon the bowel-wall, and by depriving it of its nutritive blood supply cause those changes in its functioning powers which result in nerve and muscular paralysis with secondary cessation of peristalsis and obstruction. Trauma to the spinal centers or an afferent nerve lesion may cause such a disturbance in the innervation of the intestine as to produce a complete paralysis. An over-

distension of an already weakened bowel may result in a similar condition.

It is probable that nervous conditions existing previous to the time of operation, either from long and exhausting illness or from worry or dread of the operation, predispose very greatly towards post-operative atony of the bowel-wall. A number of such cases have been reported, one in which the operation consisted of a cholecystectomy and pelvic work. A subsequent laparotomy, performed because of obstruction, showed absolutely no evidence of peritonitis or adhesions, but a greatly distended, atonic bowel, the paralysis involving the major portion of the small intestine. Several cases of spastic paralysis have been reported, in which a previous hysterical condition of the patient was regarded by the authors as the etiological factor.

There is no doubt, also, that excessive manipulation, eventration, prolonged exposure to the air and other traumatic accidents to the bowel during operation are important factors in the predisposing etiology, but even these do not explain many cases in which the nerve-factor seems to be the only logical cause.

As to the symptomatology of dynamic ileus: we are, in this paper, most concerned with that form which comes on following operation, usually upon some one or more of the abdominal viscera, although as we have stated previously, this most serious complication may follow operations entirely outside of the abdominal cavity, even in a region of the body remote and seemingly very indirectly connected with it. The symptoms of intestinal obstruction may differ in the initial stage, but they are the same, no matter what the cause, once a true blocking of the lumen and inadequacy of peristalsis has been established, whether that failure of peristalsis is due to a foreign body or mechanical pressure, or whether it is due to a spastic or flaccid paralysis of the gut-wall, making peristalsis not only ineffective but absent. Granted then that the bowel is unable, from any cause whatever, to force its contents outward beyond a given point, we have the true pathology and symptoms of an acute intestinal obstruction.

Let us look, first, at the pathology, that from it, if possible, we may work out the mechanism and sequence of the symptoms. Peristalsis having failed, there follows distension of the bowel, with tympanites. Gas and feces, beyond a few

initial expulsions, are not passed. With this paralysis and with pressure upward on the stomach and backing up of intestinal contents, there is nausea and vomiting. Pain always follows or accompanies distension, but is greatly increased, if there are efforts on the part of the normal segments of the bowel-wall to restore its normalcy through excessive peristalsis. In paralytic conditions we have little of this. Pain, then nausea and vomiting, distension and inability to pass anything per rectum are the subjective symptoms. At first there is no rise in temperature, but the pulse tends to rise progressively. These are the symptoms of the obstruction itself. There are also what we may term the pre-obstruction pathology and symptoms as well as those conditions secondary to it. The preceding symptoms depend, of course, upon the pathology of the pre-existing disease, operation or general systemic condition, which gave rise to the complication. Ileus is generally supposed to be frequent following operations upon the appendix and upon the pelvic organs, and the dynamic type is undoubtedly more frequent following long and exhausting illness preceding operation, or any measures such as drastic purging which has tended to exhaust the musculature of the bowel-wall, as well as to produce a general systemic depression.

The secondary symptoms are those which follow upon the pathologic changes incident to the obstruction itself and these may all be included under the heading of toxemia. It has been proven beyond any reasonable doubt by various series of experiments, that the obstructed bowel formulates certain toxins as end-products of protein-disintegration, and that these toxins, absorbed into the lymphatics and blood-stream, finally produce death through toxic depression of the vital centers. There is dehydration of the body-tissues, through vomiting and lack of fluid-intake, so that, symptoms due to extreme thirst invariably accompany those of toxemia. Rapid pulse, clammy skin, excessive thirst, restlessness and final collapse all follow. A rise in the temperature usually comes only in the terminal stages and is due to an absorption of toxins. With all these symptoms, however, we are and should be less concerned than with those of the beginning stage,—as it is only in this early period that we can entertain reasonable hope of being able to give the patient relief and permanent cure.

Of these initial symptoms we note, first, the

ineffective or absent peristalsis. This may come on gradually or may be present from the start, although this complication usually occurs early rather than late in the course of convalescence. The abdomen becomes distended, there is pain, vomiting, and the patient becomes somewhat restless or anxious. In considering the symptoms at this point of dynamic ileus, it may be well to consider now those ways in which it differs from mechanical obstruction, as it is only in the early stages that there is a difference. Given a history of recent operations we find the pain in dynamic ileus to be diffuse throughout the abdomen and the distension to be uniform, whereas in a definite mechanical obstruction the distension is not uniform but is more or less limited to certain coils of the intestine and therefore does not give the abdomen the appearance of general distension and the feeling of general muscular hypertension, such as is found in the dynamic variety. The vomiting of dynamic ileus is less forceful in character, a mouthful at a time, usually of a greenish, bile-stained fluid, but it may be almost incessant. Likewise the pain is more general, of a lower grade and more constant in character. There are absent the severe colicky pains of mechanical obstruction, coming at intervals and subsiding for a time, only to recur again. In true paralytic ileus there are not seen the definite peristaltic waves supposed to be so characteristic of the absolute, mechanical type.

To look at our picture as a whole then we have the case of a post-operative patient, in which there persists or soon recurs the general atonic condition of the stomach and bowels immediately following operation. There is inability to pass gas or feces by the rectum. Vomiting continues, perhaps only slight or in the case of a gastroduodenal paralysis, large in amount, but not occurring, as a rule, with great force. The pain is not marked, but is constant and distension of the abdomen becomes progressively and more diffusely marked. Along with this goes the increased pulse and the gradually developing symptoms of toxemia, previously described, leading finally to collapse.

As to the mechanism of these symptoms, we know little. We do not know how a reflex type of dynamic ileus is connected with the original lesion, nor do we know just how the particular symptoms are brought about. It is probable that if dynamic ileus is due to a disturbance in the medullary vomiting center of the nervous

system—that is, that the vomiting is reflex in character, as it is in any severe toxemia or in the condition of shock and nervous upsets. It is produced by the stimulation of the vomiting center through the afferent nerve-fibers from the plexuses of Meissner and Auerbach, this stimulation coming from the same toxin which produced the paralysis. We do not know also whether the toxic agency producing paralysis of the sympathetic system act directly on the intestinal musculature or indirectly through the nerve-supply.

The cause of death, however, is quite generally conceded to be due to the toxins formed in the obstructed loop of bowel and their subsequent absorption into the blood-stream. This causes a general toxicity and this, along with a general dehydration of the body-tissues, results ultimately in a fatal termination.

Our whole picture of dynamic ileus, however, that is, the true paralysis of the functioning or contractile power of the bowel, all points toward a disturbance in innervation as the logical explanation, rather than toward any other theory so far expounded.

Treatment.—If possible, prophylaxis should be the first step in the treatment of this most serious complication of modern-day surgery. The use of exhausting measures such as severe purgation should be avoided as pre-operative procedures. All superfluous handling of tissues, roughness in manipulation, eventration of the intestines are to be avoided as all these methods cause irritation of the nerves of the mesentery and gut-wall and are predisposing factors in a later acute obstruction.

The ileus having developed, however, the first indication, of course, in the treatment of any type, is the treatment of the cause, if there is one to be found, some reflex irritation, localized peritonitis, etc. The basis of all general treatment is the combating of the general toxicity and dehydration. This is done, first of all, by the free introduction of large amounts of fluid into the system, by rectum, subcutaneously or intravenously. Normal saline solution is used, as well as solutions of glucose or glucose combined with sodium bicarbonate. Tap-water, when used by rectum, has been found in many cases as beneficial as any other solution and is thought by many to be less irritating to the kidneys. Frequent lavage of the stomach to prevent or relieve vomiting and to give the patient needed rest, is important, and lastly, if these measures

are not sufficient and the condition of paralysis persists, the opening and draining of the bowel becomes necessary. Local anesthesia may be used and if possible is to be preferred to general, especially if the condition of the patient is at all bad, and if there is danger of aspiration of the vomitus during unconsciousness. The operation is usually an enterostomy, preferably high, and the draining off of the toxic bowel-contents. In the case of a damaged mesentery with a partial cutting-off of the blood-supply, a resection of a portion of the bowel may be necessary, but in a simple paralysis, the establishment of drainage from the obstructed loops and the freeing of the system from the effects of toxic absorption, gives the intestinal tract a chance to recover its tone and functioning power. Even though a fecal fistula is established, it can be healed later and is of secondary importance to that of relieving an otherwise fatal condition.

A few cases of this type of surgical accident are surely sufficient to make us anxious to advance our knowledge along this line, both as to cause and early recognition, the treatment being dependent, of course, upon the latter condition. If it is due, as seems highly probable, to some disturbance in innervation of the intestinal wall, and if it can be definitely determined how and by just what mechanism it acts, then we shall be a long way on the road to being able to avoid it. If we recognize it early and understand its underlying pathology, then we are already half way on the road to its proper treatment.

THE NERVOUS PATIENT AND HIS STRUGGLE FOR POISE*

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In spite of the work, much of it brilliant and illuminating, that has been done in recent years on the makeup of the neurotic or nervous patient, too much of the writing has tended to make confusion worse confounded. The impartial, fair-minded student will agree with me when I say that in many respects the problem still calls loudly for solution. The interpretation may lie largely in the proper interpretation of the phenomena already disclosed. But proper interpretation means proper understanding, without which therapy cannot have a scientific and firm foundation.

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In fact, as I see it, most of the discussions of the nervous patient make the problem so complicated and so confuse the average reader, that a common sense view of the situation is, as a rule, not obtained. Many of us, as a consequence, do not understand the nervous patient and do not know how to handle him, even if he is willing to put himself in our hands.

The problem is much more simple than most books on this subject would have us believe. Nor is there any good reason why the general practitioner cannot handle these cases satisfactorily, provided he is willing to study them and has the patience to treat them.

There is a crying need for simplification of the problem of the nervous patient and a presentation of the subject in such a manner that he who runs may read and understand and be convinced.

Definition of the term "Nervous Patient."—When I use the term "nervous" or "neurotic" patient, I mean an individual with an unusually irritable nervous system. This excessive nervous irritability means oversensitiveness or overreaction to inadequate stimuli, overexcitability, or overresponsiveness to internal and external stimuli. Nervous activity in the nervous or neurotic is, therefore, excessive or misdirected.

There is frequently added to this generally or constitutionally irritable nervous system, localized nervousness or abnormal irritability of more pronounced degree than is present in other regions of the body. There may thus result what have been called "organ neuroses" (cardiac, gastric, intestinal, genital, etc.), which vary in degree and location.

The Relation of the Nervous to the Average Person.—The difference between the so-called normal or average individual and the nervous person is one of degree in impressionability, responsiveness or excitability. An understanding of one should lead to a better understanding of the other.

Likewise, an understanding of the congenital or seemingly congenital neurotic will permit a clearer insight into the characteristics of the person with a nervous system which is but temporarily overirritable from one or more of the causes responsible for the acquired or symptomatic neuroticism.

Furthermore, no matter what disturbing condition a person may have due to gross organic,

toxic or other causes, a varying degree of nervousness or increased nervous excitability may be associated with it, so that bodily disorder or illness of whatsoever nature leads to some degree of nervousness. Nervousness, as is well known, may thus be but a superimposition which may mask some real organic or other condition responsible for the nervous and mental manifestations. Before going further, then, let us enumerate the most important groups of causes of nervousness.

The Causes of Nervousness.—The causes of nervousness may be conveniently classified as follows. (a) Congenital, of prenatal origin. This type of nervous system irritability may result from parental (especially maternal) syphilis, tuberculosis, malnutrition, etc. To what degree and how often nervous system hyperirritability can be transmitted by heredity is a question which cannot yet be answered definitely or accurately, the work of the eugenists, biometricians and Mendelians to the contrary notwithstanding. There is no doubt in my own mind that many infants and children who are nervous from prenatal, intrauterine or maternal conditions or from postnatal conditions (such as malnutrition, infectious diseases, poor training and discipline) are said to have inherited their nervous makeup, when, as a matter of fact, the latter was acquired prenatally or postnatally. Even what may be clearly proven to be congenital nervousness (a difficult task, indeed) should by no means be considered inherited. I shall not, therefore, speak of hereditary or inherited nervousness. Nor must it be forgotten that congenital or seemingly congenital nervousness may be exaggerated by the causes mentioned under the acquired form.

(b) Acquired or of postnatal origin. The main causes of the acquired type fall into the following groups:

1. Mechanical, such as flat feet, tight clothing, poor posture. These conditions produce feelings of irritability, with fatigue, stress, strain, tension, uneasiness, restlessness and the rest.

2. Physiological. Here we have two sub-groups: (a) unhygienic living, such as overwork, insufficient food or sleep, poor ventilation, feeling too warm or cold (from improper heating or dressing); and (b) the physiological epochs (puberty, menses, pregnancy, lactation, menopause, senium).

3. Poor training and discipline with bad habit

formations, such as defective methods of work, with haste, hurry, stress, strain, impatience, anxiety, worry, fear, etc. Home and family conditions, precept and example of the parents, chaotic, unsystematic, irregular living conditions at home play important roles.

4. Organic diseases outside the nervous system—incipient active tuberculosis, hyperthyroidism, cardio-vascular-renal diseases, especially hypertension, gastric and duodenal ulcer, etc.

5. Organic nervous diseases, such as cerebrospinal syphilis, chorea, multiple sclerosis and the like.

6. Drug and intoxication states—excessive coffee or tea, alcohol, morphin, cocaine, veronal, etc.

7. Traumatism, leading to post-traumatic cases.

8. Psychologic. This includes emotional conflicts, clearly conscious and so-called “unconscious,” centered about one or more of the fundamental instincts or tendencies—the yearning for security, power, adventure, variety, companionship, health, money, sex, etc., conveniently grouped as related to the ego, sex and herd instincts, or better, as desires or wishes for new experience, for response, for security and for recognition.

This classification of causes is given for the purpose of stressing the need for a most careful, head-to-toes general physical examination and a complete sequential history, including the nervous and mental aspects, in every case of nervousness, so that the cause or causes provoking the condition may be elicited in each individual case.

Our discussion from this point on, however, will be confined to functional nervousness or neuroticism not due to gross organic or to toxic factors.

The discussion thus reduces itself to 1, the general or constitutional makeup of the nervous patient and 2, his nervous and mental habits or his behavior—his manner of thinking, feeling, speaking, eating, sleeping, working, playing, etc. This will be taken up under the next heading—the common manifestations of nervousness.

In passing, I may say that it is plain, from what I have said in the discussion of causes of nervousness, that no one not a physician can handle the average nervous patient with satisfaction and individualization, with inclusion and consideration of all possible causative factors.

The Common Manifestations of Nervousness—

The manifestations of nervousness may appear as minor or slight phenomena of an intermittent or chronic nature, or as severe outbreaks of an acute type in the course of the underlying minor chronic condition. Because of the exaggerated response to stimuli, we find an undue sensitiveness to noises and sounds, especially if sudden and loud. There is a tendency to fidgetiness, jerkiness and constant wasteful, useless bodily motions or choreiform movements, with twitching of the eyelids, face or lips, wringing of the hands, nail picking or biting, thumb or finger sucking, picking of the nose, lips, face or fingers, gritting of the teeth, holding of the breath, sighing, habit spasms or tics, tantrums, tremor of extended fingers, exaggerated knee-jerks, etc.

The tendency to hurry, rush, excitement and overintensity is very important. The nervous patient seems to be overcharged and driven too fast or powerfully. This undue and wasteful expenditure of energy leads to fatigue and this in turn to fear of fatigue. With the tendency to fatigability there may go dizzy feelings, headaches, and disturbed sleep (insomnia, restless sleep, disturbing dreams, sleep walking, sighing or crying or talking in sleep).

There are feelings of tension, stress, strain, with uneasiness, restlessness, anxiety, worry, panickiness and fears. Feelings of discouragement, loss of self-confidence and conviction of incapacity are common. There results a tendency to confusion, with multiple conflicting thoughts and indecision. Very characteristic are feelings of being lost, of incompleteness, incapacity, inferiority, imperfection, uncertainty, insecurity, or helplessness. Common, too, is the tendency to doubts, scruples, phobias, obsessions and even major psychotic states—such as excited, depressed or paranoid states.

Not infrequently the patient experiences feelings of strangeness, unfamiliarity or depersonalization even to the extent of split or multiple personality.

Throughout there is a trend toward extremism or excessive reactions in thinking, feeling and doing, with over-emotionalism (excessive anger, fear, hate, love, jealousy, and the like), overtimidity or overboldness, overconscientiousness (extreme finickiness, precision or accuracy), stubbornness, singletrackmindedness and excessive domination by ideas.

There is an unusual degree of the want of self-control or self-mastery, with relatively feeble will power or diminution of inhibition, evidenced by impulsiveness, impatience, and the desire for the immediacy of expression or execution of tendencies or the satisfaction of wishes.

The neurotic, due to his great impressionability, reacts more keenly to the slings and arrows of outrageous fortune, and struggles more frequently and profoundly to solve the problems, internal and external, which to him are more annoying than to one not so intensely irritable. Mental conflicts, conscious and so-called unconscious, occur in the nervous more easily, frequently, profoundly and acutely, and are apt to be more disturbing and prolonged. The neurotic makes constant efforts to solve the problems and free himself from the annoyances which beset him. If his critical powers, education, experience, training and will power are great enough, he may solve problems which are of the greatest value to our personal lives or to humanity in general. Many of the great men and women in history have been of this type—teachers and philosophers, founders of new systems of thought and living. If their foundations, premises or fundamental views are true and based on sound logic—critical—their gifts are invaluable contributions to science or knowledge. But if their premises be false, their conclusions are likewise unsound, and often based on onesided, single-track thinking, as is seen in many of the health cults, fads, faith cures and false philosophies of life.

Much energy must be spent by the neurotic in gaining physical, physiological, nervous and mental poise, which is necessary for effective living and in playing the game of life. Self-pampering is the consequence. Self-pampering may lead to oversuggestibility in this direction, with hypochondria, hysteria and their ilk.

Irrational, unreasonable, groundless fears, especially concerning bodily, nervous and mental health, with wild, panicky, frantic efforts at immediate self-preservation, with certainty and at any cost (to others as well as themselves), are all too common. An embryonic personality is the final product, with unrestrained and brutal selfishness, self-pity, a craving for sympathy, the avoidance of responsibility, dependency and parasitism. Such a neurotic is self-centered, conceited, with a constant desire for attention,

self-display and self-satisfaction. This extreme selfishness and egotism leads Sidis to call them true egomaniacs. They have become insatiable seekers of health and happiness for self, with credulity or belief in magic, health cults, fads, faith cures and fakes. Ennui, listlessness, boredom, inertia and indifference may be overcome in some measure by a pathological craving for excitement, sensation, mysticism, sensationalism, the miraculous, fantastic, unbelievable, impossible.

The Struggle for Poise.—Is it any wonder that efforts, well directed or blind, are before long made by the individual to gain poise or equilibrium? The feeling of disequilibrium or inner unrest naturally leads to a yearning for peace of mind, nerves and body—harmony or equilibrium. He looks about him for support, help, a crutch to lean upon for aid and comfort, to give him stability, calmness, repose, equanimity.

And so, before long, the average nervous patient feels the need and develops the yearning and wish for nervous and mental calm, balance and harmony. And in his quest for it, he tries various ways and means to this end—some helpful, others harmful, still others indifferent.

More and more eagerly he endeavors to avoid or flee from the annoying states of disequilibrium and struggles to hide his real or imaginary weaknesses, defects, handicaps, fears, and strange feelings from others.

Some of the common means of gaining poise shall be briefly mentioned. Definite efforts at repression of the nervousness may be made, often by wrong methods and without realizing the causes or adopting measures to prevent it. This non-complaining repressed type should command our greatest admiration and respect in his silent battle for poise. Carroll has well said: "The considerate, determined efforts at mastery place the repressed nervous patient on a distinctly higher plane than the average self-pitying, attention-craving, responsibility-avoiding, sympathy-demanding, self-centered neurotic."

In other cases the nervous patient may have full insight into his makeup and may map out a definite campaign for self-control and self-direction, to prevent and cure his condition, using at the same time whatever repression may be necessary. Plenty of sleep, periods of rest and relaxation, correct posture, systematizing his work, thinking, feeling and doing things more calmly

and slowly, encouraging within himself the tendency to smile, the spirit of good cheer, with a brave, forward looking, constructive philosophy, psychic hardening, and other habits and qualities of a helpful nature may be cultivated. This is the type of neurotic that is a boon and a blessing.

Too often, unfortunately, the nervous patient is in the grip of unrestrained, impulsive thinking, feeling and acting, with insufficient powers of inhibition, without insight, and frequently so obsessed that he is practically inaccessible to ordinary conversation or advice. In these cases he may develop a deep and urgent desire for obtaining immediate relief from his annoying states of body and mind, preferably with a guarantee of one hundred per cent certainty, and as pleasantly and quickly as possible. And so he flees to the health cults, fads and faith cures and medical quackery of one sort or another. His credulity in this respect may be unbelievably manifested. He may go from one ism to the other, ever seeking the new, the magical, the miraculous, be it ever so nonsensical, so long as it has the hope or promise of relieving him of his distress and giving him euphoria and poise.

He may resort to the use of excessive amounts of coffee or tea, of alcohol, morphin or cocaine, only to make his condition worse. Sedatives of milder type may be seized upon in the hunt for the unfailing soother and calmer—veronal, bromides, or one of the many patent medicines advertised for this purpose.

Relaxation schemes (some of them very useful), special diets (especially vegetarianism), physical training or culture, electricity in one way or another, hydrotherapy, massage, osteopathy, chiropractic, Christian Science, New Thought, Coueism, so-called iridodiagnosis, and Abrams' electronic cult and fraud may here be mentioned.

Overreligiosity, and mild or more pronounced psychotic states especially depression, states of self-depreciation or of self-expansion, and paranoid states are not uncommon ways of solving the conflict.

Individualization. Each case must be solved individually. With each nervous patient one should consider the following questions:

1. Has he a congenitally irritable nervous system?
2. What are the evidences, physical and mental, of disequilibrium?

3. What was or is the cause?

4. Does the cause still exist as a provocative agent?

5. Can the cause be removed, if it still exists?

6. If the cause no longer exists, has the patient gained poise in the manner most suitable and least harmful to himself and others?

7. If not, what desirable and practical substitutes can be offered or suggested?

The patient may have the full situation as presented above explained to him only if he is intelligent and student enough to grasp it and apply it.

Therapeutic Application. After excluding organic, chemical and similar causes, which would require treatment specially directed to their removal, the therapy resolves itself into the avoidance of undesirable and even harmful ways of gaining poise and the substitution of desirable and definitely helpful means to this end.

For the latter purpose we need careful and intensive self-study and understanding by the patient, with determined plans to correct defective, faulty ways of thinking, feeling and acting, by the exercise of determined, persistent will power, with the avoidance of rush, hurry, stress, strain, tension, excitement, anxiety, worry, excessive and useless anger, hate, fear, etc.

Morale, courage, faith, hope, the fighting spirit, the sporting attitude (of being a good loser), avoidance of complaining and faultfinding, good cheer, etc., must be encouraged.

If acute distressing symptoms develop, then all other indicated methods must be employed—hydrotherapy, sedatives, hypnotics, schemes for relaxation, rest periods, even to complete bed rest, massage, and the other commonly used methods. Psychotherapy, with efforts at satisfactorily solving any outstanding mental conflicts or hidden sources of mental uneasiness, must be used with a free hand, the form and degree varying with the type of mentality with which we may have to deal.

But at all times it must be kept in mind that the salvation of the neurotic depends on the substitution of proper habits for harmful ones.

There is no rapid or royal road from nervousness to poise.

In addition to removal of the cause or causes and the relief of symptoms, personality development is of the greatest necessity. This can be attained only by work.

SUMMARY

The neurotic or nervous patient is characterized by neuropsychic overimpressionability or hyperexcitability, due to one or more causes, which are enumerated. This produces a condition of physiological and psychological instability and disequilibrium, which, in turn, leads to many symptoms, especially feelings of uneasiness and insecurity, resulting in fears and dwarfing of the personality. There then follows a struggle to gain poise or equilibrium in various ways. The main manifestations of disequilibrium and the common ways of gaining poise are given. The need for careful study and individualization in treatment is stressed.

31 North State Street.

HYPERACIDITY IN EARLY INFANCY A FACTOR IN ICTERUS NEONATORUM

ROBERT A. POYNTON, M. D.,
CHICAGO

Every obstetrician whose experience has extended over many years, can recall in his practice the loss of infants from icterus neonatorum. Babies who at birth appeared to be perfectly normal and of good parentage have within a few days manifested the yellow coloring of the skin, which instead of disappearing at the end of a week or more, became more pronounced and the infant, instead of waxing strong, withered and died.

There have been many theories, plausible and otherwise, advanced as to the cause of this fatal disorder of early infancy. Such careful observers as Quincke, Henry Ashby, West and Epstein have expressed widely divergent opinions.

While all those theories may be of interest to the paediatrist, the patent fact remains that the etiology of severe types of infantile jaundice is still in doubt and the treatment only expectant.

The question as to whether true icterus in which bile is present in the urine, the conjunctiva colored and the stools altered, bears any relation to the so-called local jaundice is still a matter of dispute. Dr. Alois Epstein found bile pigment in a crystalline amorphous state to be freely present in the urine of new born infants. This pigment was also found in the kidney and blood. The theory was advanced that this was a result of the destruction of the red corpuscles. That the composition of the blood in the neonati may predispose to this destruction has been shown.

Hofmeir demonstrated the difference in the blood corpuscles of infants and adults; in the former the red are more spherical, without a tendency to form rouleaux while the white are more numerous but deliquescent and show a marked tendency to aggregate. That the destruction of many blood corpuscles soon after birth causes a kind of blood fermentation has been demonstrated by Silbermann.

This is especially apt to occur in feeble infants, whether from prematurity, protracted birth, chilling of the body or any other cause leading to impairment of body functions or lowering of vitality. Sheffield in his modern work on diseases of children is inclined to the theory of gastro-intestinal irritation—analogueous to catarrhal jaundice in older children.

That icterus neonatorum may result from different causes there can scarcely be a doubt, but whether the yellow coloring of the skin is of hepatic or haemic origin further investigations may clear up. While it is claimed that slight jaundice occurs in 80% of all babies born, in a record of fourteen cases that promised to be fatal, in our practice during the past six years and in which alkaline therapy yielded such gratifying results, the clinical history of some may be of interest.

Case 1. Baby S., born of healthy parents, normal but somewhat protracted delivery, weighed at birth $7\frac{1}{2}$ lbs. Infant seemed to thrive the first five days, when a marked coloring of the skin appeared. On the seventh day the baby was unable to nurse and could not even swallow water even though taking it freely before. Examination revealed a very marked jaundice; the skin pinched and shrunken, respiration and pulse barely perceptible, temperature 101. The general aspect of the infant would indicate but a brief survival. The withered condition of the skin, bright red and parched mouth and tongue pointed to acidosis. An antacid solution of bicarbonate of soda was prepared, after moistening tongue and lips with the solution the little patient was able to swallow a few drops; in a brief time the ability to swallow was apparent; more water was given at intervals with antacid, and after about three hours the infant was able to nurse. An antacid was ordered given between nursing, together with a daily alkaline bath. The improvement was rapid and permanent. That baby is now a healthy vigorous boy of six years.

Case 2. Baby P., female, both parents healthy, born at seven and one-half months gestation, weight $5\frac{1}{2}$ lbs. Infant, though premature, seemed to be active and able to nurse for the first two days. On the third day, however, the jaundice appeared, the skin became shrunken, mouth and tongue parched and red, unable to nurse or scarcely move but lay in a lifeless comatose condition. An antacid was promptly used

as in the above case and after a few hours infant was able to swallow freely and soon resumed nursing. The antacid treatment was continued for two weeks more and although the mother's nurse failed, the infant thrived and is now healthy and strong at three and one-half years of age.

Case 3. Baby N., born at full time January 15, 1923. Mother primipara, aged 35, had severe albuminuria during the last six weeks of pregnancy. Infant female, weight 7 lbs., was able to nurse and appeared to thrive the first four days. On the fifth day jaundice appeared, skin and conjunctiva colored, stools dry and hard. On the sixth day examination revealed a severe icterus, the nurse stated that the baby refused to take the breast and seemed to be in a stupor. An alkaline solution was ordered to be given at frequent intervals. After five or six hours a marked improvement was noted, the baby again took the breast, the dry scarlet tongue became moist. The antacid treatment was continued and at the end of the second week, although the skin was not clear, the baby was thriving, the bowels normal and now at thirteen months is a fine healthy infant.

The above cases picture very accurately the clinical history of the others, although this limited number from private practice may not prove anything conclusive. At least eight cases coming under our care in the past six years would have surely perished had an expectant or do nothing treatment been followed.

It is possible that many cases of death in young infants recorded as marasmus, inanition and even hemoglobinuria may have been purely cases of hyperacidity.

9152 Commercial Avenue.

Society Proceedings

ADAMS COUNTY

The May Meetings

May 12, 1924. This was a regular meeting of the Adams County Medical Society and was called to order by the President, Dr. Warren Pearce. There was a total of 29 present.

Dr. W. E. Mercer reported for the committee investigating a physician practicing without a license in the county, and stated that this matter was settled for the physician in question had passed the State Board Examination.

The Secretary informed the membership of the School of Instruction in Tuberculosis coming to Quincy on June 2 and that the next meeting date of the society would fall due at the time of the American Medical Association in Chicago. He made a motion that the next meeting of the society be turned over to the School of Instruction in Tuberculosis of the Illinois Tuberculosis Association and be held on June 2. Seconded and carried.

Because of the 1925 meeting of the Illinois State Medical Society being held in Quincy, there was

considerable discussion as to what preparation the Adams County Medical Society should make in the way of holding this convention. This finally resulted in a motion by Dr. Nickerson, and seconded by Dr. Beirne, that the July meeting be turned over to a thorough consideration and discussion of the 1925 Illinois State Medical Society meeting. Seconded and carried.

Dr. Nickerson made his report as delegate to the meeting of the Illinois State Medical Society at Springfield. He told of the methods that had been used to secure the convention and praised the work of every member that attended the convention because of the efforts they exerted on the various delegates. Dr. Nickerson also stated that the Secretary of the Pike County Medical Society had extended an invitation to the members of the Adams County Medical Society to meet with them at their July meeting, which will be held on the last Thursday of the month at Barry, Illinois.

An instructive scientific paper was given by Dr. J. W. H. Pollard on the "Value and Necessity of Periodic Health Examinations." This was followed by a carefully prepared paper on the "Methods and Technic of Conducting Periodic Health Examinations" by Dr. E. B. Montgomery. Dr. Harold Swanberg then gave an illustrated talk on "Periodic Health Examinations" from slides and a lecture prepared by the National Health Council of New York City. These papers were discussed by Drs. Koch, Pearce, Beirne, Parr of Carthage, Ill., Shaw of Adrian, Ill., and Williams and finally closed by Drs. Pollard, Montgomery and Swanberg. Adjournment was made about 10:45 P. M.

May 14, 1924: This was a special meeting of the Adams County Medical Society, called at 11:30 A. M. by the President, Dr. Warren Pearce, who was in the chair. Twenty-four members were present and one guest, Mr. Dave Tuffli of the *Quincy Herald*. The President explained the nature of the meeting, that an emergency measure had arisen in that the Quincy City Council had given permission for a Carnival to be held on the Water Works Reservoir grounds, and that such a Carnival might result in serious pollution of the water supply of the city. Dr. J. W. H. Pollard was called upon to explain the exact nature of the trouble as it appeared to the Quincy Public Health Department. Following this, Dr. Wells stated he believed it was the consensus of opinion of the members that the Society should go on record as unanimously opposed to the action taken by the City Council, in that it might result in a pollution of our water supply, and that a committee of two be appointed to draw up suitable resolutions, condemning the action of the City Council and to immediately submit these resolutions to the Society. Seconded by Dr. A. H. Bitter and carried. The Chair appointed Drs. Pollard and Knox on this committee. Within about ten minutes, Dr. Pollard submitted to the members the following resolutions for the approval of the Society:

WHEREAS: the Municipal Council of our city has

gone on record as passing an ordinance rescinding Ordinance No. 224, which gives definite authority to the Water Works Commission to control all Water Works property, and substituting therefor an ordinance which withdraws the control of the land surrounding the open water reservoir located on Chestnut Street between twenty-second and twenty-fourth streets, from the Water Works Commission, and place it under the control of the City Council; and

WHEREAS: The City Council has gone on record, by a vote of 13 to 1, as dedicating this land to "parking, recreation and amusement purposes"; and

WHEREAS: The City Council has already granted permission for the use of this land for Carnival and amusement purposes for the week beginning May 18th:

Be It Resolved:

1. That the Adams County Medical Society go on record as unanimously opposed to the action taken by the City Council; and

2. That the present uncovered and unprotected drinking water reservoir, located within the residential district of our city, and flanked on two sides by rows of open privies, is not satisfactory and at best is a possible menace to the community and this Society believes the use of the reservoir for such purposes, as stated in the Council's action, would greatly increase this menace to the health of our city through further probable contamination of our water supply and

Be It Further Resolved:

That this Society go on record as congratulating Mayor Smiley, Alderman Bickhaus, the members of the Water Works Commission and the local press upon their decided stand in the interests of public health.

Committee for Adams County Medical Society

J. W. H. POLLARD, M. D.

T. B. KNOX, M. D.

This was followed by considerable discussion as to the exact wording of the resolutions, all agreeing that they should be adopted but some disagreed as to the exact terminology. Drs. Beirne and Center both disapproved of the way the resolutions were worded. Dr. Wells made a motion that the resolutions be adopted as read. This was seconded by Dr. Knox and carried. Dr. A. Bitter made a motion that a copy of the resolutions be sent to the mayor, the city council, both city newspapers and the Water Works Commission. Seconded and carried. Adjournment was made about 12:00 noon.

Marriages

GUY ARMSTRONG, Taylorville, Ill., to Miss Alice Hicks of Decatur, April 12.

DWIGHT M. ERNEST, Peoria, Ill., to Miss Eunice Daly of Princeville, recently.

CARL R. MITCHELL to Miss Mary Cuneo, both of Chicago, April 23.

GRACE B. MITCHELL to Dr. Iver Olaf Eide, both of Chicago, May 13.

LOUIS ROY WAYMAN to Miss Nell Overly Brandon, both of Murphysboro, Ill., April 17.

Personals

Dr. Charles E. Chapin has been appointed medical director and lecturer on clinical diagnosis at Illinois Wesleyan University, Bloomington.

Dr. B. Barker Beeson, has been appointed professor and director of the division of dermatology and syphilology, Loyola University School of Medicine.

Dr. Frank Billings was the guest of honor at a meeting of the Wyandotte County Medical Society at Kansas City, Kan., May 7.

Dr. Ray Mercer, Quincy, has been appointed to the medical detachment of the One Hundred and Thirtieth Infantry with the rank of major.

Dr. Phillip A. Scott, recently connected with St. Luke's Hospital, has been appointed director of the department of pathology at the Tacoma (Wash.) General Hospital.

Dr. Stephen Walter Ranson, professor of anatomy at Northwestern University Medical School, has been appointed director of the department of histology at the Washington University Medical School, St. Louis.

Prof. Roswell P. Angier, Ph.D., director of the Psychologic Laboratory of Yale University, New Haven, Conn., has been appointed professorial lecturer in psychology at the University of Chicago, and William Taliaferro, of Johns Hopkins University, Baltimore, associated professor of hygiene and bacteriology.

Dr. Frank Smithies, professor of medicine, University of Illinois College of Medicine, addressed the combined medical and surgical sections of the Ohio State Medical Association at its annual meeting in Cleveland, May 15, on "The Results of Eight Years' Treatment of Peptic Ulcer by the Physiologic Rest Method, and Without the Use of Alkalies or Lavage."

Dr. Ernest E. Irons, professor of clinical medicine at Rush Medical College, who has been acting dean of students, has been appointed dean of Rush Medical College of the University of Chicago. Dr. Frank Billings, who has been dean of the faculty for the last twenty-five years,

has resigned. The two positions—dean of the students and dean of the faculty—will be combined.

The establishment of full time, efficient county health departments is the chief object of a campaign recently opened by the state department of public health. In this movement, the state will have active support from the federal government. Dr. Thomas Parran of the U. S. Public Health Service is already in Illinois, assigned for duty under the direction of the state department of public health. He will spend his entire time, during the immediate future, in promoting and organizing county health units. Staff members of the state department will be available for the same purpose. Federal funds from the U. S. Public Health Service for subsidizing a limited number of county health units that may be organized under Dr. Parran's direction are available for immediate utilization. Communications from local sources relative to the whole proposition are encouraged.

Recently Dr. W. A. Newman Dorland, of Chicago, appeared before an Army Medical Examining Board and received his promotion to the grade of Lieutenant-Colonel in the Medical Reserve Corps of the United States Army.

News Notes

—A new four-story addition will be erected at St. Bernard's Hospital on South Harvard Avenue.

—The Chicago Tuberculosis Institute announces that it has moved from 8 South Dearborn Street to 360 North Michigan Boulevard.

—The city code has been amended to provide fines of from \$10 to \$100 for physicians or midwives who neglect or improperly treat new-born infants' eyes. The maximum penalty heretofore was \$25.

—The American Physiotherapy Association will hold its third annual convention at the Drake Hotel in Chicago, June 10 and 11, 1924. Anyone interested is cordially invited to attend.

—Northwestern University must obtain \$172,318, in pledges, in the next two months, in order to obtain the conditional gift of \$600,000 from the General Education Board, it was announced, May 7.

—First annual meeting of the American Association for the Study and Cure of Cancer, founded October 12, 1923, will be held at the

Drake Hotel, Chicago, Ill., June 11, 1924, at 10 a. m.

—The Moline Physicians Club elected the following officers for the coming year at the annual meeting held May 16, 1924: President, Dr. Perry Wessel; vice-president, Dr. H. A. Beam; secretary, Dr. Phebe Pearsall; treasurer, Dr. K. W. Wahlberg.

—Alleged to have swindled about twelve physicians with fraudulent checks, Carl S. Lake was arraigned May 2 in the Des Plaines Street court on complaint of the Wesley Memorial Hospital, where he succeeded in cashing a \$100 check.

—At the forty-seventh annual meeting of the Central Illinois Medical Society at Pana, April 29, Dr. Robert L. Morris, Decatur, was elected president to succeed Dr. Dorwin D. Barr. Dr. Samuel B. Herdman, Taylorville, was elected vice-president, and Dr. Franklin A. Martin, Pana, secretary-treasurer.

—At the annual meeting of the Chicago Pathological Society, May 12, the following officers were elected for the ensuing year: president, Dr. William F. Petersen; vice president, Dr. James P. Simonds, and secretary, Dr. George H. Weaver. The next meeting will be held in October.

—The committee in otolaryngology appointed by the American Academy of Ophthalmology and Otolaryngology to examine candidates for entrance into this society, will hold an examination in Chicago at the North Chicago Hospital, June 13. This examination will be held for the accommodation of those who will not find it possible to report at the regular stated examination which will be held in Montreal, September 15, at the annual meeting of the academy.

—Members of the Illinois State Medical Society, who at the State meeting in Springfield registered at the exhibit of the Bacteriological Laboratories of G. H. Sherman, M.D., will be interested to learn that the winners of the prizes are as follows: Dr. Frank C. Fink, Pleasant Plaine, Illinois, won the six vial case outfit. Dr. Jerome J. Weil, 3149 Southport Ave., Chicago, won the two vial case outfit.

—Plans for the merging of Rush Medical College with the University of Chicago have been completed. Medical work will be organized as follows:

1. The Rush Medical College of the University, which will continue its work as formerly at present, will prepare students for the M.D. degree on its old site on the West Side.

2. The Rush Post-Graduate School of Medicine will be housed with the Rush Medical College in the New Rawson Laboratory on the West Side and will train graduate physicians.

3. The School of Medicine of the University of Chicago will be housed in the new medical buildings and will prepare students for the M.D. degree and higher research. This is now being organized by Dr. Franklin C. McLean and Dr. Dean D. Lewis. When this school is in full operation, it is expected that it will absorb the work of Rush Medical College and the two permanent institutions will be the Rush Post-Graduate School on the West Side and the School of Medicine of the University of Chicago on the Midway.

—The new Rawson laboratories, to be erected at a cost of \$400,000, will house the graduate department of the school and will be erected on the ground now occupied by the old Rush Medical College building. This building will house the administration office of the college, the medical library, the departments of occupational therapy, hydrotherapy, pathology and the free dispensary. The Norman Bridge Laboratories of Pathology will occupy the fifth floor. The West Side departments will then include Senn Hall, a research laboratory, and affiliated institutions, including the Presbyterian Hospital, the John McCormick Memorial Institution for Infectious Diseases and the Home for Destitute Crippled Children. The units to be erected at once include the Albert Merritt Billings Memorial Hospital of 200 beds, and the physiologic group. The Billings family donated \$1,000,000 for the hospital and Mr. and Mrs. Max Epstein, \$100,000 for Epstein Dispensary. The hospital will house the Billings Library, a gift of Dr. Frank Billings. The new medical buildings for the graduate school of medicine on the Midway will cost more than \$3,000,000. All the new structures will be in Gothic architecture to correspond with the other buildings of the university.

—The Kane County Medical Society at the meeting May 4 went on record as opposed to members giving their services to free clinics. This action is alleged to be due to the feeling that "the opportunity for free treatment has been abused."

—The Alumni of Rush had a luncheon at Springfield, May 7th, at the time of the State Society meeting, attended by fifty-five of the old bunch, Dr. Wills of Peoria having graduated in

1869 and furnishing the reason for the use of the word "old." The other fifty four "young medics" had a crackin' good time, the meeting being presided over by E. H. Ochsner, who stimulated the bunch to individually rise to their feet and say something. Dr. Wills of '69, and Dr. Kaufman of '75, also Drs. Brittin, Coolie and Murphy were called upon for remarks and the whole affair was a grand success. The luncheon was not only satisfying but well served and it was with regret that the bunch adjourned to resume their places in the big meeting.

Deaths

WALTER JOHN BROWN, Danville, Ill., Rush Medical College, Chicago, 1891; a Fellow A. M. A.; aged 56; died, May 8, of septicemia.

JOHN H. BURKE, Decatur, Ill.; Detroit (Mich.) Medical College, 1884; aged 67; died, April 6.

MATTHEW S. CARR, East St. Louis, Ill.; Missouri Medical College, St. Louis, 1868; aged 84; died, April 7, of carcinoma.

FREDERICK ALFRED FISHER, Chicago; Rush Medical College, Chicago, 1901; a Fellow A. M. A.; veteran of the Spanish-American and World wars; on the staffs of the Alexian Brothers' Hospital and of the Illinois Masonic Hospital, where he died, May 3, of heart disease.

WILLIAM WEAVER HARTMAN, Chicago; Rush Medical College, Chicago, 1892; a Fellow A. M. A.; aged 57; died, May 2, of heart disease.

WILSON H. MAHON, Cooksville, Ill.; American Medical College, St. Louis, 1880; aged 69; died April 30, following a long illness.

JOHN DRAKE MANDEVILLE, Champaign, Ill.; Rush Medical College, Chicago, 1875; member of the Illinois State Medical Society; Civil War veteran; aged 80; died, April 14, of senility.

FRANK DALLAS MANKIN, Wewanee, Ill.; Electric Medical Institute, Cincinnati, 1893; aged 56; died, May 8, following a long illness.

JAMES McNALLY, Chicago; L. R. C. P., Ireland, 1868; never in practice; vice-president of the Rand-McNally Publishing Company since 1869; aged 76; died, March 25, at Pasadena, Calif., of pneumonia.

JAMES NELSON SHALLENBERGER, Chicago; Barnes Medical College, Chicago, 1897; aged 67; died, May 1, of injuries received when assaulted.

SIREMBA SHAW, Chicago; Rush Medical College, Chicago, 1882; aged 73; died, April 17, of paralysis.

EDWARD B. THOMPSON, Peoria, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1892; member of the Illinois State Medical Society; aged 61; died, March 30.

CHARLES SCHUYLER ZEIGLER, Peoria, Ill.; Barnes Medical College, St. Louis, 1899; member of the Illinois State Medical Society; aged 52; died, April 20.

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6	7	8	9	10	11	12	
13	14	15	16	17	18	19	
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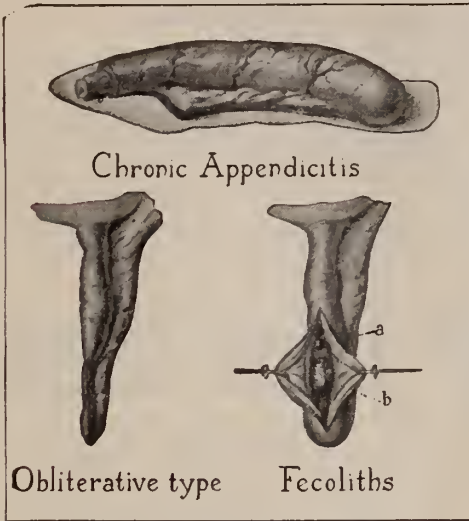
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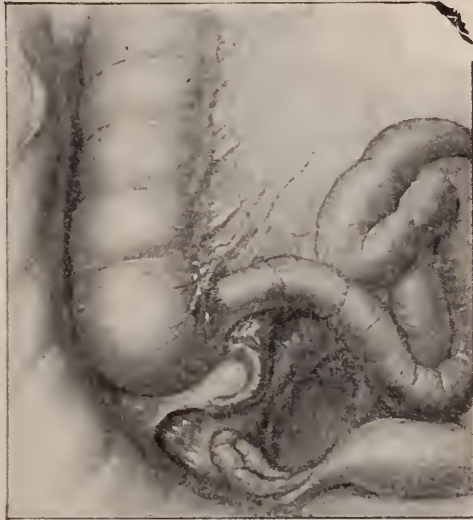
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Chronic appendicitis with adhesions

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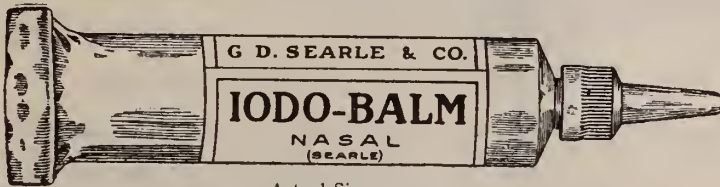
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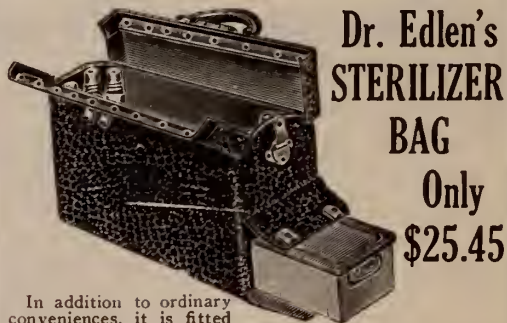
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Dilution	Number of Surviving Organisms at End of				Available Chlorine in Dilution	
	15 Minutes	30 Minutes	60 Minutes	120 Minutes		
ZONITE					9.01	grams per liter
1:2.....	000	000	000	000	4.505	" " "
1:5.....	000	000	000	000	1.802	" " "
1:10.....	3,600	1,000	000	000	0.9010	" " "
1:20.....	2,400,000	1,200,000	900,000	120,000	0.4505	" " "
1:50.....	3,600,000	3,000,000	3,000,000	3,000,000	0.1802	" " "
DAKIN'S SOLUTION					4.68	grams per liter
1:2.....	48,000	19,000	800	000	2.34	" " "
1:5.....	2,400,000	1,300,000	1,100,000	170,000	0.936	" " "
1:10.....	4,200,000	3,000,000	1,250,000	1,400,000	0.468	" " "
1:20.....	4,800,000	4,800,000	6,000,000	6,000,000	0.234	" " "
1:50.....	7,200,000	7,200,000	7,200,000	7,200,000	0.0936	" " "
CONTROL						
5 c.c. water + 5 c.c. Horse Serum + 0.1 c.c. S. P. A.	6,600,000	7,500,000	7,000,000	9,000,000		

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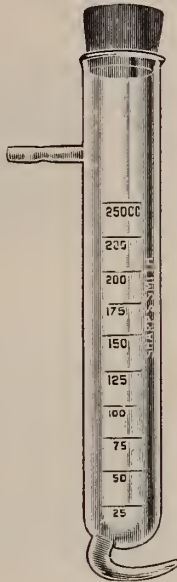
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